

African Healthcare Investment Opportunities Report

NOVEMBER 2023

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Prosper Africa engaged CrossBoundary, a mission-driven investment firm that unlocks capital for sustainable growth and strong returns in underserved markets, to carry out this study. This report was prepared by Stefan Pagura, George Managoba, Stefan Amokwandoh, Lesley Reddy, Marília dos Reis Martins, and Nneka Chime. Special thanks to the many stakeholders engaged during this study.

PROSPER AFRICA

» Executive
Summary



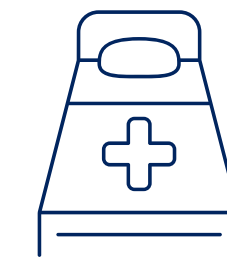
The growth tailwinds for Africa are familiar, but healthcare presents a unique set of opportunities and challenges that investors must be aware of

African Healthcare has a number of tailwinds attracting capital to the sector....

...but investors must also consider the multiple headwinds when approaching investments in healthcare



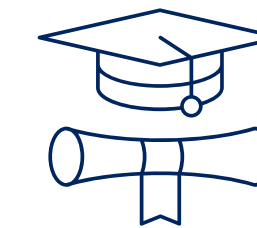
The **rapid and continued urbanization of Africa's growing population** is reducing the costs to reach patients and improving business scale.



Africa is exposed to over 22% of the global disease burden and yet **commands less than 1% of global health expenditure and has a chronic health infrastructure deficit**.



Changing lifestyles along with increased life expectancies is altering the disease mix and healthcare needs in Africa, with a greater burden of disease being non-communicable and chronic resulting in new care demands.



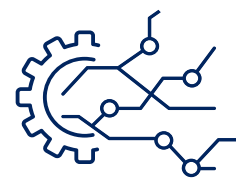
Under investment has put a strain on existing health workers, including their working conditions, which has contributed to a **c.US\$2B annual loss on training costs as African doctors emigrate to high-income countries**.



Growth in middle-class spending and purchasing power is also driving continued demand for healthcare, as **evidenced by the continued growth in medical tourism**.



c.38% of healthcare spend in the African Union is out of pocket, increasing the strain on household finances in a region where one in three live below the global poverty line.



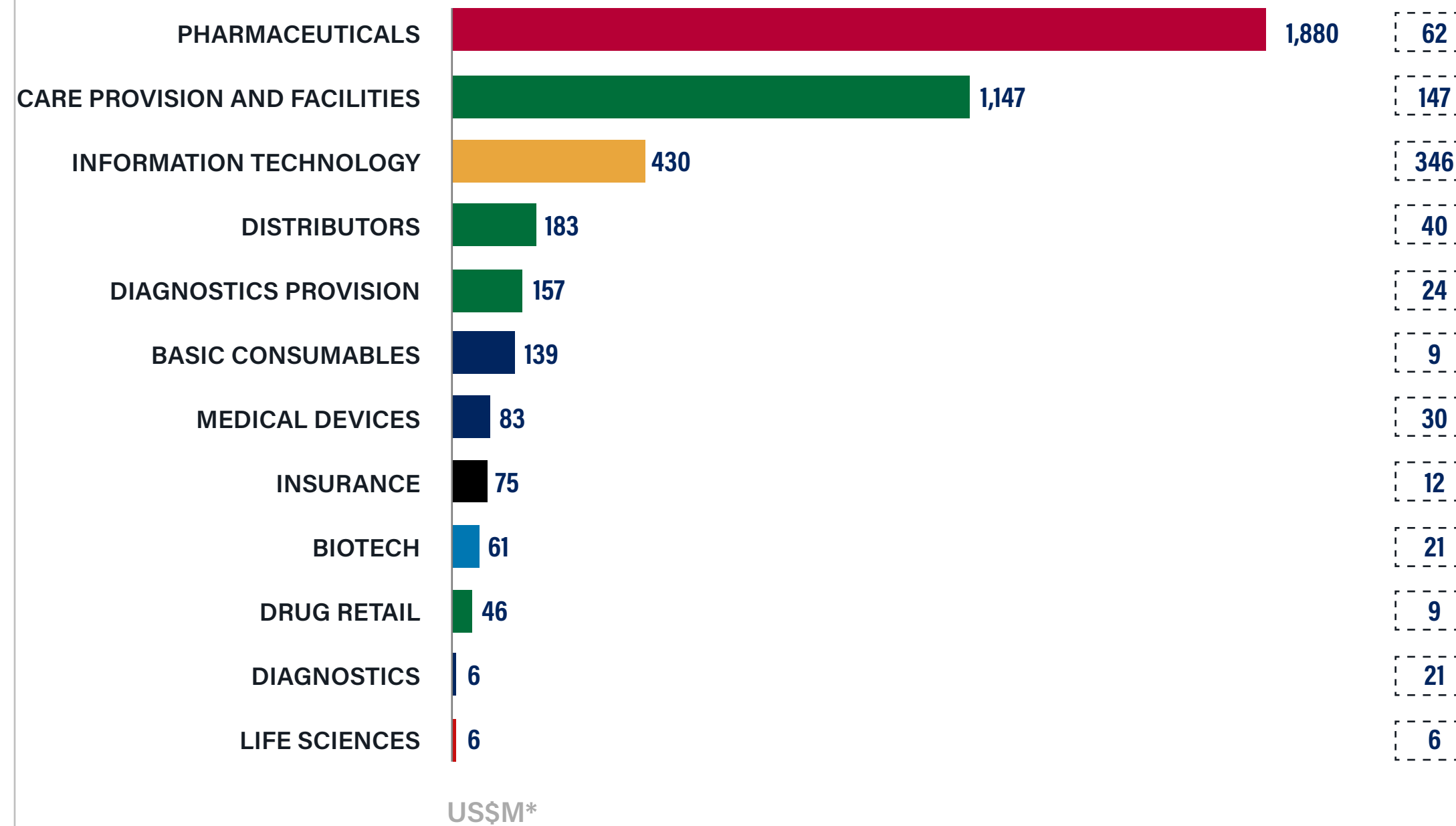
Increased digitization, and opportunities for leapfrogging technology exists across the healthcare value chain.



Under investment in National Medicines Regulatory Authorities (NMRAs) has led to inconsistency of skills and authority between countries along with limited access to competent regulatory professionals, all of which has contributed to **regulatory fragmentation**.

Since 2016, nearly \$4.2B¹ has been invested in African healthcare, with pharma being the main target by invested capital, and tech. by deal count

Transaction size has been dominated by pharmaceuticals mostly due to large capex demands and export opportunities



- » Pharmaceuticals attracted the most capital as investors seek to capitalize on Africa’s ambition to produce the pharmaceuticals it consumes domestically
- » As demand for care provision increases and infrastructure build fails to keep pace, investment opportunities to meet demand continue to grow
- » Health technology in Africa continues to experience significant growth. Young and growing businesses operate in a variety of verticals such as telemedicine, supply-chain management, and health literacy
- » Biotech activity remains nascent, but international pharma is increasingly interested in tapping into the genetic diversity in Africa for clinical trials and therapy development
- » DFIs have participated in ~15% of all deal volume in the period of analysis, making them a key part of the capital market across healthcare

*Excludes healthcare education/training

1 - Excludes debt investment, grants, and volumes only include disclosed amounts

Over 89% of equity investments made were concentrated in five markets – indicating these markets provide greater depth and maturity

MOROCCO US\$617M (15%)

Key sectors:

- » Pharmaceuticals (83%)
- » Care provision and facilities (17%)
- » Information Technology (0.3%)

NIGERIA US\$351M (8%)

Key sectors:

- » Information Technology (41%)
- » Insurance (21%)²
- » Biotech (13%)

SOUTH AFRICA US\$935M (22%)

Key sectors:

- » Care provision and facilities (35%)
- » Pharmaceuticals (28%)
- » Distributors (15%)

EGYPT US\$1.5B (35%)

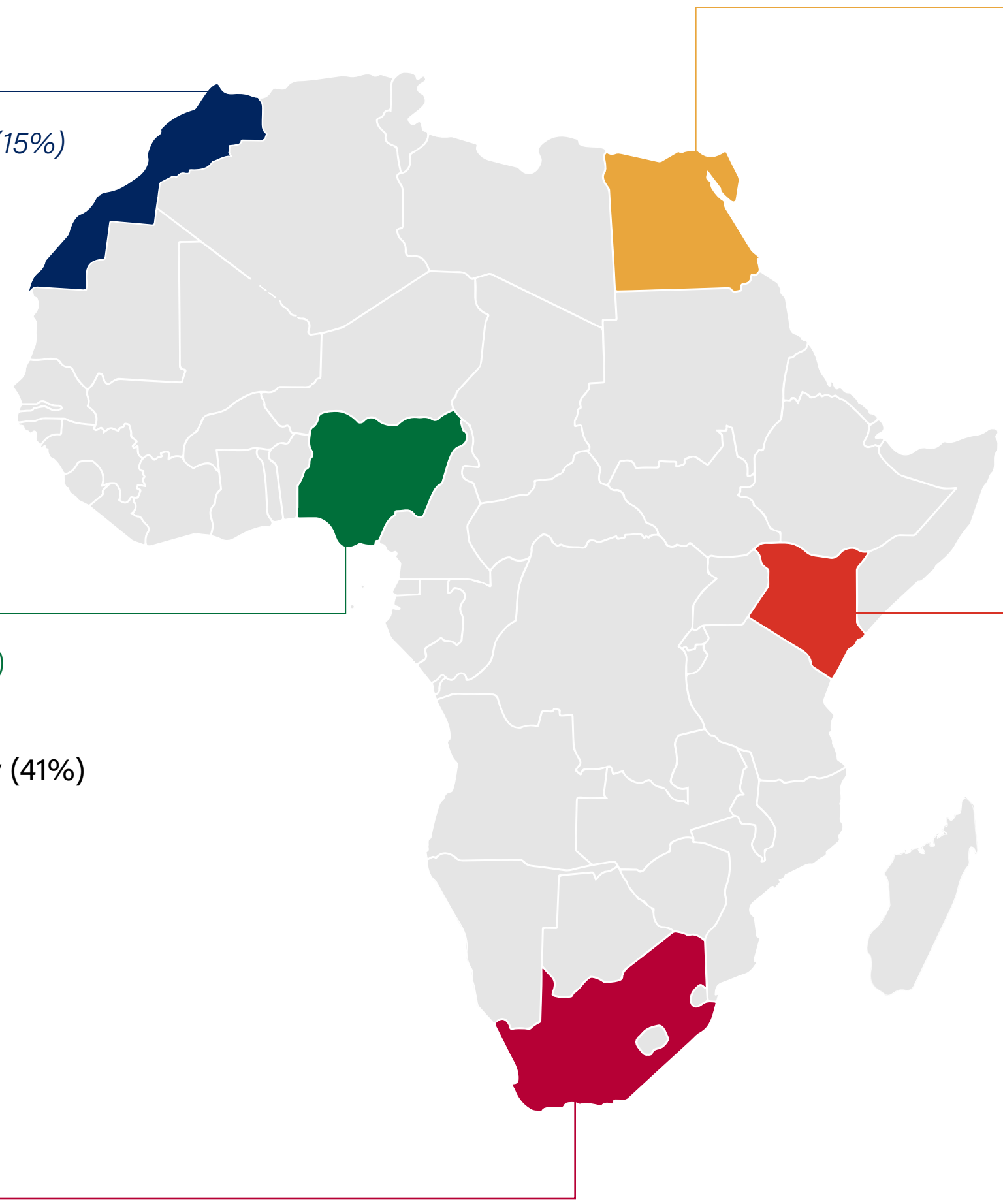
Key sectors:

- » Pharmaceuticals (69%)
- » Care provision and facilities (16%)
- » Diagnostic provision (8%)

KENYA US\$379M (9%)

Key sectors:

- » Care provision and facilities (76%)
- » Distributors (9%)
- » Information Technology (8%)



» Given the need for eventual exit when deploying the equity product, investors focus on the markets that will offer the greatest depth and eventual liquidity

» These markets also offer the best opportunities for investment into scalable businesses given the large local demand across many underserved industries

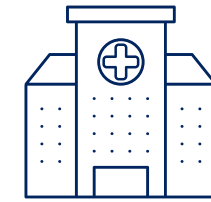
» Additionally, their relatively advanced industrial base also offers the best opportunities for regional and international export in a hub and spoke expansion model

Source: Pitchbook and CapIQ

1 - Excludes debt investment, grants, and volumes only include disclosed amounts

2 - Inflated by the US\$67M Hygeia HMO transaction

Looking beyond care services, there is an increasing set of investment opportunities in pharma, diagnostics provision, and healthtech



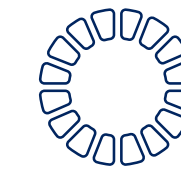
While there is a significant need for care services investments, much of the activity is concentrated in larger markets that have robust public-private partnership frameworks for care services. Additionally, many investors have shied away from direct care services due to larger infrastructure investment needs which can be quite capital intensive. To be sure, there are opportunities in this industry, but they will not be the focus of this report.



Looking at opportunities for established growth investors whose preference is for ticket sizes between US\$10-20M, the pharmaceutical, diagnostic provision, and healthtech industries offer an increasing set of opportunities.



Increasing localization of pharmaceutical supply chains due to a pronounced need for African markets to be pharma self-sufficient will accelerate market size growth in many African markets. Similarly, the realization of the need to invest in diagnostic provision on the back of the COVID-19 shock will produce further capacity and deepen this market. Healthtech is another lever that African markets can pull to leapfrog expensive traditional models – this is a growing market that can drastically improve healthcare asset productivity.

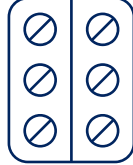











Pharmaceuticals, diagnostic provision, and healthtech all have strong development impact potential. Investment in pharmaceuticals in Africa will build more local production capacity and strengthen supply chain resilience. Investment in diagnostic provision would contribute to early detection and better management of diseases. Similarly, building strong and sustainable healthcare systems in Africa requires improvements in health asset productivity and efficiency, with technology playing a leading role in achieving that.

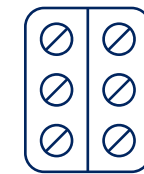


In what is a fairly shallow pool of investment opportunities (relative to other markets like India), pharmaceuticals, diagnostic provision, and healthtech industries are some of the most active, and have received a significant proportion of healthcare capital flows. There is also growing interest in these industries by strategics making subsequent exits opportunities in these spaces more likely.

Investment activity to-date in focus industries provides a view as to where investors can prioritize pipeline development

	Top destinations for investment (deal value)	Examples of companies	Notable Investors	Notable precedent transactions	Potential Challenges
 <p>Pharmaceuticals</p>				<p>Amoun acquisition by ADQ for US\$740M in 2021</p>	<ul style="list-style-type: none"> » Mismatch of production costs and local purchasing power » Competition from international suppliers and counterfeits » Environmental risk challenges » Regulatory and procedural challenges, including trade barriers » Smaller players focused on domestic demand will likely have a harder road to achieving regional scale, which necessitates focus on larger 'platform' businesses
 <p>Technology</p>				<p>US\$13M investment into Zezeeta by Beco Capital, IFC, Saudi Technology Ventures, and others in 2018</p>	<ul style="list-style-type: none"> » Need for standardization of records and interoperability » Lack of regulatory clarity » Lack of available working capital » Long investment horizons and limited investment pool
 <p>Diagnostic provision</p>				<p>US\$109M acquisition of Metamed by Mediterrania Capital Partners Proparco, ERBD, FMO and others in 2020 LBO</p>	<ul style="list-style-type: none"> » Talent and equipment shortages » Access to healthcare and costs of care provision » Regulation and public sector competition » Limited target universe

Key strategic considerations in each industry will shape how investors pursue equity investments across the healthcare investment landscape



Pharmaceuticals

- » Given investor need for clear exit pathways, there is a need to focus on larger platform type businesses in the pharmaceutical industry that can either be strategic acquisition targets or firms that could exit into public markets.
- » This naturally limits the opportunity set to more established companies with experienced management teams that are focused on sizeable expansion - either organically or in-organically. These companies tend to have a focus on export markets to supplement large domestic demand as well (e.g., sales to GCC countries or Europe as well as domestic sales).
- » Given their focus on exports these firms tend to have stringent regulatory approval as well as local regulatory approvals.
- » Additionally, it is crucial to focus on companies with some competitive advantage against Indian and Chinese companies, as these are major competitors globally.
- » Companies with unique formulations, diversified blue chip off-takers, established markets and reliable API suppliers, and other economic moats around their businesses are more likely to compete against other cost-competitive producers globally.



Technology

- » Much of the increasing investment activity in African healthtech has been in early-stage rounds that are significantly sub-scale for investors with minimum ticket sizes of \$10M – there have only been 7 investment rounds that were more than \$10M since 2016.
- » However, given the uptick in early-stage investment in past three years, there will be more opportunities for Series-B and C rounds in the coming 12-24 months that may be of a size to be interesting to investors with these minimum ticket sizes.
- » Given this likely lead time, investors should tactically focus on developing relationships with active VC firms in the industry to have a better line of sight on capital raises from their portfolio companies as they seek further later-stage funding that is more aligned to the investors' ideal ticket.



Diagnostic provision

- » Similar to pharmaceuticals, when targeting opportunities in diagnostic provision, investors should prioritize platform type businesses that could be attractive targets for strategic acquisition in particular given that has been the main exit pathway for companies to date.
- » Given the nascency of the industry and given the ticket size constraints, investing in acquisitive businesses with management teams that have a track record of value accretive integrations is likely the best opportunity for investors looking to move capital at scale into the industry.
- » Capital intensity of the industry is relatively high, therefore investors will need to find debt financing partners to pursue transactions with so that is an appropriate capital structure for these businesses

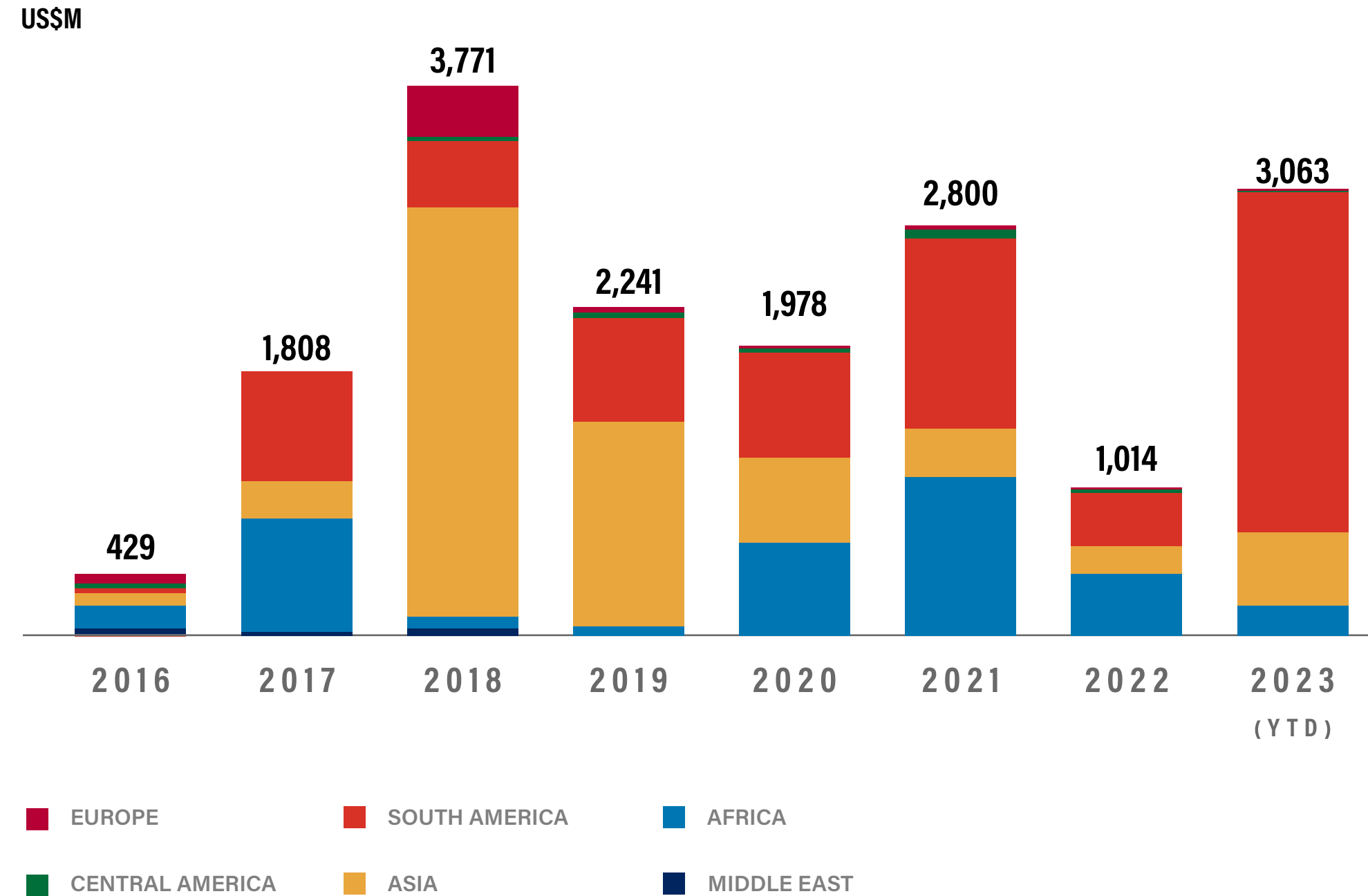
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» African Healthcare
Investment Landscape

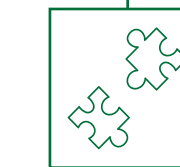
COVID-19 highlighted fragilities in emerging market healthcare systems, spurring investment to boost resilience

Across underserved markets globally, healthcare investment has retracted from COVID driven highs, but has shown resilience even amid a wider market pull back

Flow of PE/VC investment in Healthcare in Underserved Markets*



Africa saw a marked jump in overall share of investment across these markets, largely driven by Africa's young and fast-growing population, growing consumer class, changing healthcare economics, leapfrog tech opportunity, and recognition that private sector innovations are needed to overcome healthcare system inefficiencies.



However, challenges persist across African healthcare markets, and these flows are still heavily concentrated in larger markets as regional integration on key components like regulatory harmonization is still lagging



The gaps in local production of health commodities, consumables, and vaccines has also led to an increased push across the international community for increased production autonomy, driving investment into those parts of the sector.

Source: CapIQ, Pitchbook
 *Includes Angel/Accelerator, VC, PE,. Excludes debt, grants, secondary market transactions and reverse acquisitions. Data only includes emerging markets capital flows and excludes relatively mature markets like China and India in Asia, and only includes frontier markets in Europe

The growth tailwinds for Africa are familiar, but healthcare presents a unique opportunity given changing demands in African healthcare utilization



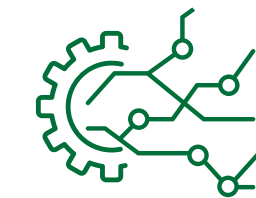
By 2050, nearly 60% of Africa's population is expected to be living in urban areas. The **rapid and continued urbanization of Africa's growing population** is reducing the costs to reach patients and improving business scale. Improving asset utilization through a broader customer base continues to unlock low margin, high volume businesses



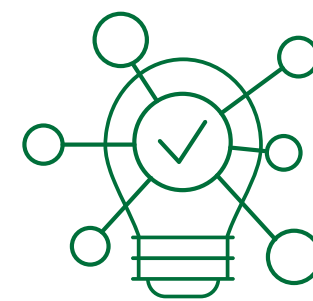
Changing lifestyles along with increased life expectancies are fundamentally driving changes in the disease mix and healthcare needs, with a greater burden of disease being non-communicable and chronic resulting in new care demands.



The African Development Bank estimates that **Africa's middle class will grow from 355 million individuals to 1 billion individuals by 2050.** Growth in middle-class spending and purchasing power is also driving continued demand for healthcare, as **evidenced by the continued growth in medical tourism.**



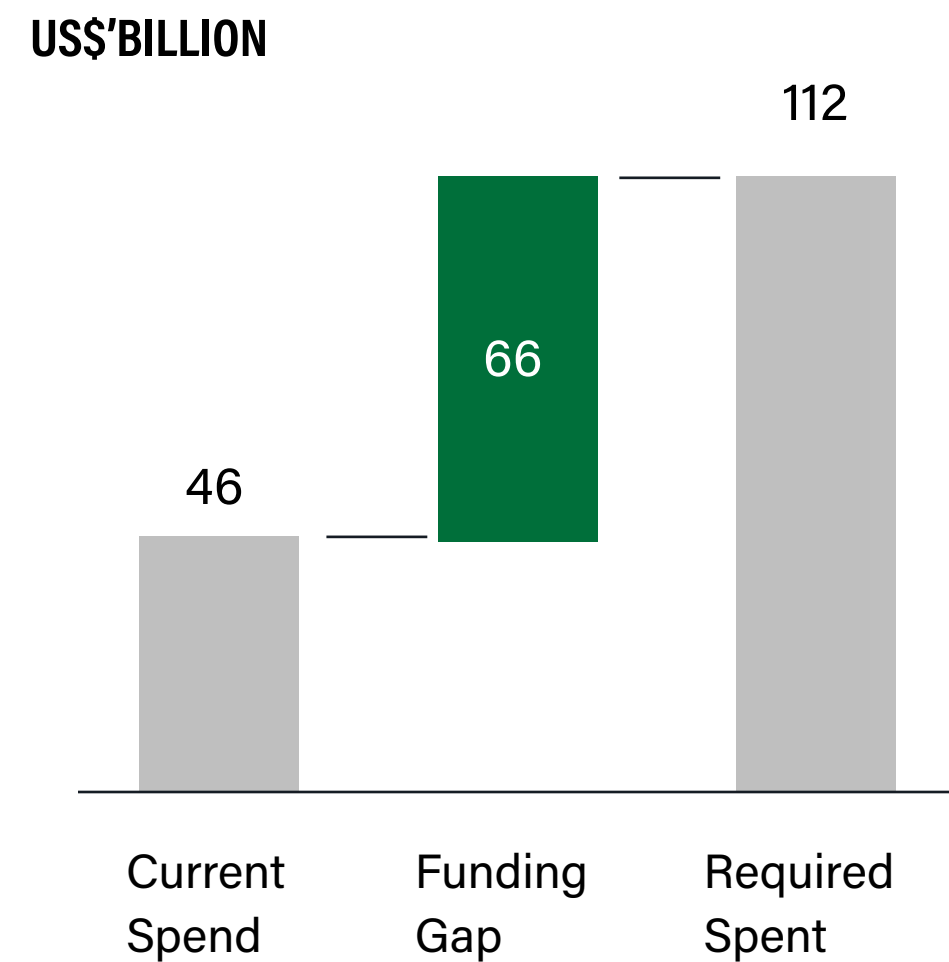
Increased digitization, and the opportunity for leapfrogging technology exists across the healthcare value chain. As new infrastructure is brought online, there is a unique opportunity to digitally native service offerings for patients. Big data analytics, telemedicine, and point of care imaging and diagnostics are just some of the ways the sector can **deploy technology to improve accessibility and quality of care.**



Taken together, these trends present opportunities **to develop new business models and double down on established and growing businesses** that are able to meet what will be a **continually increasing demand for healthcare - especially high value care.**

However, under investment in African healthcare has led to material structural shortfalls that can make the tailwinds challenging to capitalize on

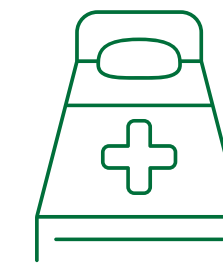
In 2015, Africa's health financing gap was estimated at \$66B per annum¹



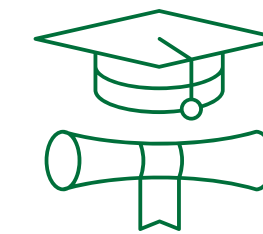
“Hospital infrastructure is decaying, pay isn't high enough [with] mostly stagnant wages [since] the 90's

CEO & Founder, Biotech company

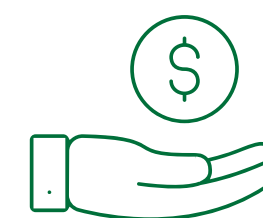
...which has led to poor basic healthcare infrastructure and service delivery



Access to care: Africa is exposed to over 22% of the global disease burden and yet commands less than 1% of global health expenditure and has a chronic health infrastructure deficit.



Medical brain drain: Under investment has put a strain on existing health workers, including their working conditions, which has contributed to a c.US\$2B annual loss on training costs as African doctors emigrate to high-income countries.



Out of pocket spending: c.38% of healthcare spend in the African Union is out of pocket, increasing the strain on household finances in a region where one in three live below the global poverty line.



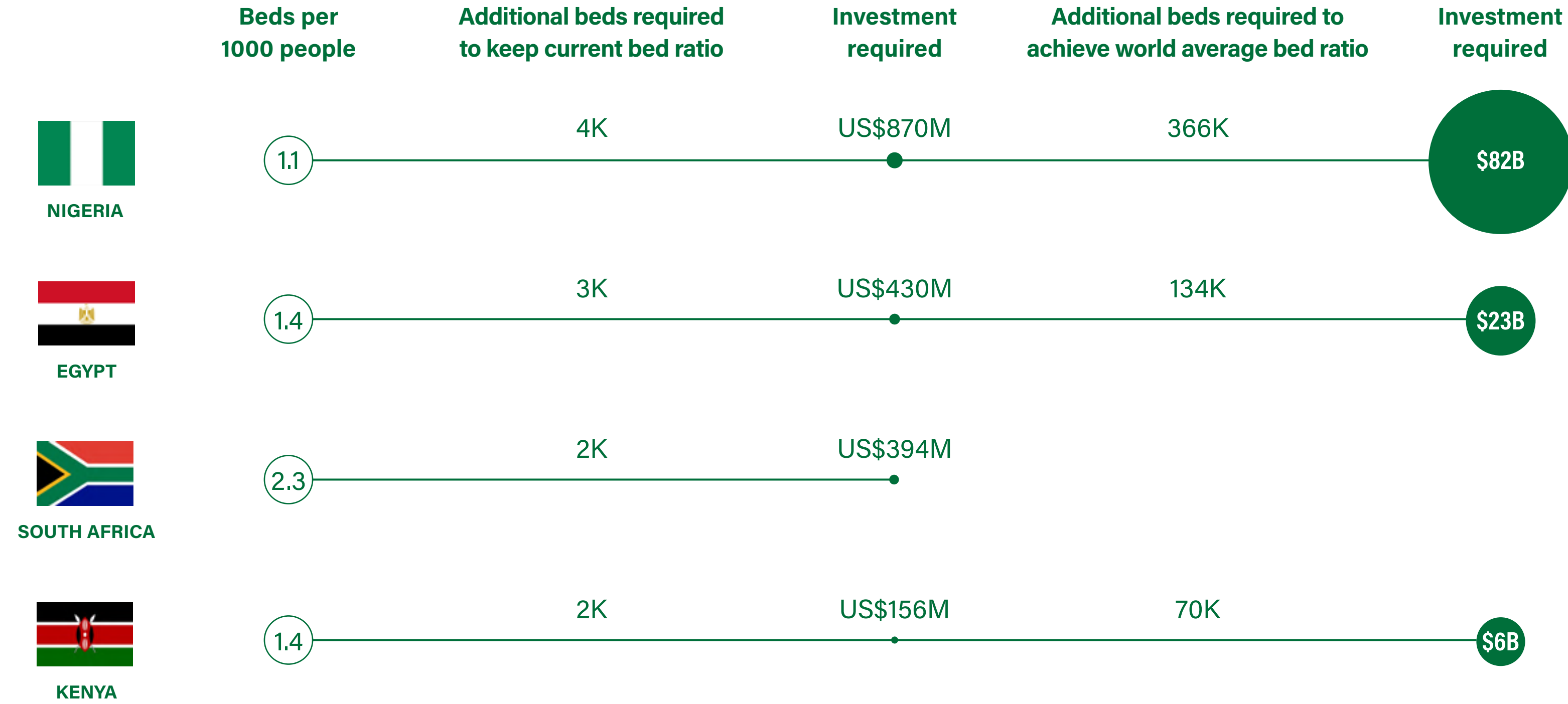
Poor regulatory framework: Underinvestment in National Medicines Regulatory Authorities (NMRAs) has led to inconsistency of skills and authority between countries along with limited access to competent regulatory professionals.

Source: UN Economic Commission for Africa: Healthcare and Economic Growth in Africa (2019), WHO: World Health Report (2006), World Bank Data: Out of Pocket Expenditure (2018), Reuters: Doctor brain drain costs Africa US\$2 billion (2011), BMC: Harmonization of medical products regulation (2011)

¹ - Funding gap is defined as the shortfall in healthcare spend against a target spend of five percent of Gross Domestic Product

Just to keep pace with current population growth, massive investments in hospital capacity is needed – even greater to meet world averages

Bed to Population Deficit Across Major African Markets¹



Other than South Africa, all African countries fall short of the global average bed-to-population ratio of 2.7 beds per 1000 people. This leaves a significant need for investment in healthcare infrastructure.

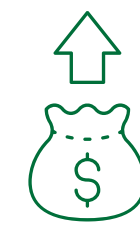
As the figure shows, simply to keep their current ratios as they currently stand given population growth constitutes a considerable opportunity. Getting major African markets to international averages will require a long-term concerted effort.

Source: Knight Frank Africa Horizons Report 2019, World Bank
1 – As of 2019

Brain drain in African healthcare results in elevated costs for businesses and patients, with limited incentive for private firms to invest in training



Lack of skilled workers in many African markets undermines growth narratives for healthcare firms which require technical capabilities – this can be a headwind to many investment cases



This results in pooling of talent around hub locations which increases cost of care to patients when travel and logistics costs are incurred, either by service providers or patients themselves



However, investment in domestic training is challenged due to skill migration to developed markets – notably for workers from Egypt, Ghana, Nigeria, and South Africa who collectively made up 86% of the Africa-trained physician workforce in the U.S. in 2015

“ When we look at markets to expand into, there needs to be a strong education system for a business like ours, and a strong focus on specialization in human capital

CEO & Founder, Care Services Company

Case study: Laboratory service provider with African footprint

- » Talent is pooled in South Africa with 11 pathologists on staff, some of which have >30 years of experience
- » In Rest of Africa, there is **one key pathologist per hub market**
- » The result is that laboratory samples must be transported to South Africa for complex testing, analysis and second opinions
- » **At best this increases costs, at worst this can adversely impact sample viability** due to poor transportation networks and long travel times from remote testing sites
- » Lack of trained professionals is a key constraint and cost driver

“ I know more Nigerian nephrologists in the U.S. than I do in Nigeria.

CEO & Founder, healthcare company

Public insurance and government payors play a major role in many African markets - but coverage and efficiency need to expand and improve



Broad based insurance coverage can radically change healthcare markets in Africa by widening out the base of customers, making businesses more profitable through economies of scale.



While there has been a significant push towards improving public health insurance options, uptake has been limited mostly to East Africa – and even in those markets there is a need for affordable private solutions to supplement public provision.



For private healthcare service and medical goods providers, complex accreditation processes and long accounts receivable time lags for invoices to public insurance providers can result in increased costs.

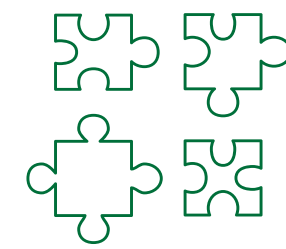
Case study: Kenya NHIF

- » In Kenya, a key issue with private health insurance space is low penetration beyond corporate clients, so low retail penetration – the gap between willingness and ability to pay persists, especially in the informal economy.
- » In Kenya, the National Health Insurance Fund (NHIF) still doesn't cover all treatment, so private insurance can be a benefit. New regulations mean that all private benefits must be exhausted before the use of NHIF, making private insurance provision increasingly uneconomic.
- » Reimbursement times from NHIF can also be extremely long, making hospital investments and any service that relies on the scheme less economic given working capital issues.

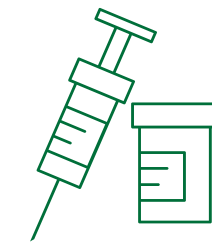
Fragmented registration requirements across markets results in systematic inefficiencies which adversely impact investment



Africa is a continent of 55 countries with >1.2billion people. This should make it comparable to markets such as India and China (population c.1.4bln).



However, due to regulatory legislation being created at the national level, neighbouring countries within Regional Economic Communities can have considerably different procedures and systems for regulating as well as approving medical products.



As a result, applicants and manufacturers are obligated to submit duplicative evidence dossiers to several National Medical Regulatory Agencies for the registration of medical products in each country where the product is intended for marketing.



This results in the use of distributors who will manage the application process in exchange for monopoly import rights for those medical goods. This can result in distributor profit margins of >25%, compared to more developed markets with distributor profit margins of 2-3%.



“ [An] African Union centralized FDA-type institution would change the market - big hurdle for American business is the need to re-register in each market when they want to offer products

CEO & Founder, African clinic company

“ There are too many regulations of how drugs and other stocks flow around [Kenya], making accessibility difficult

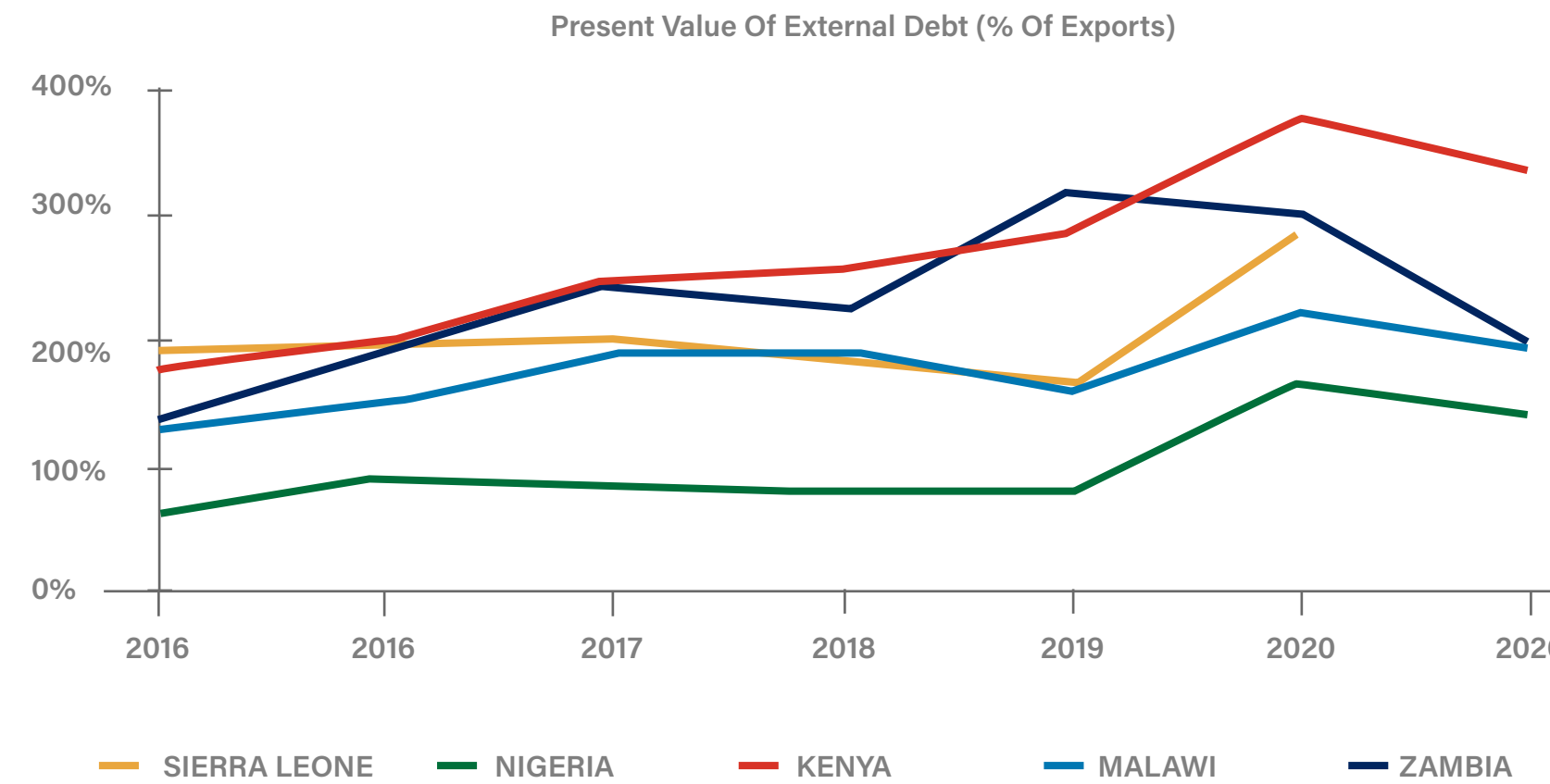
CEO & Founder, African clinic company

“ You need local partners to open doors and navigate the regulatory environment...they often want equity in the business which create hurdles to sale when the time comes

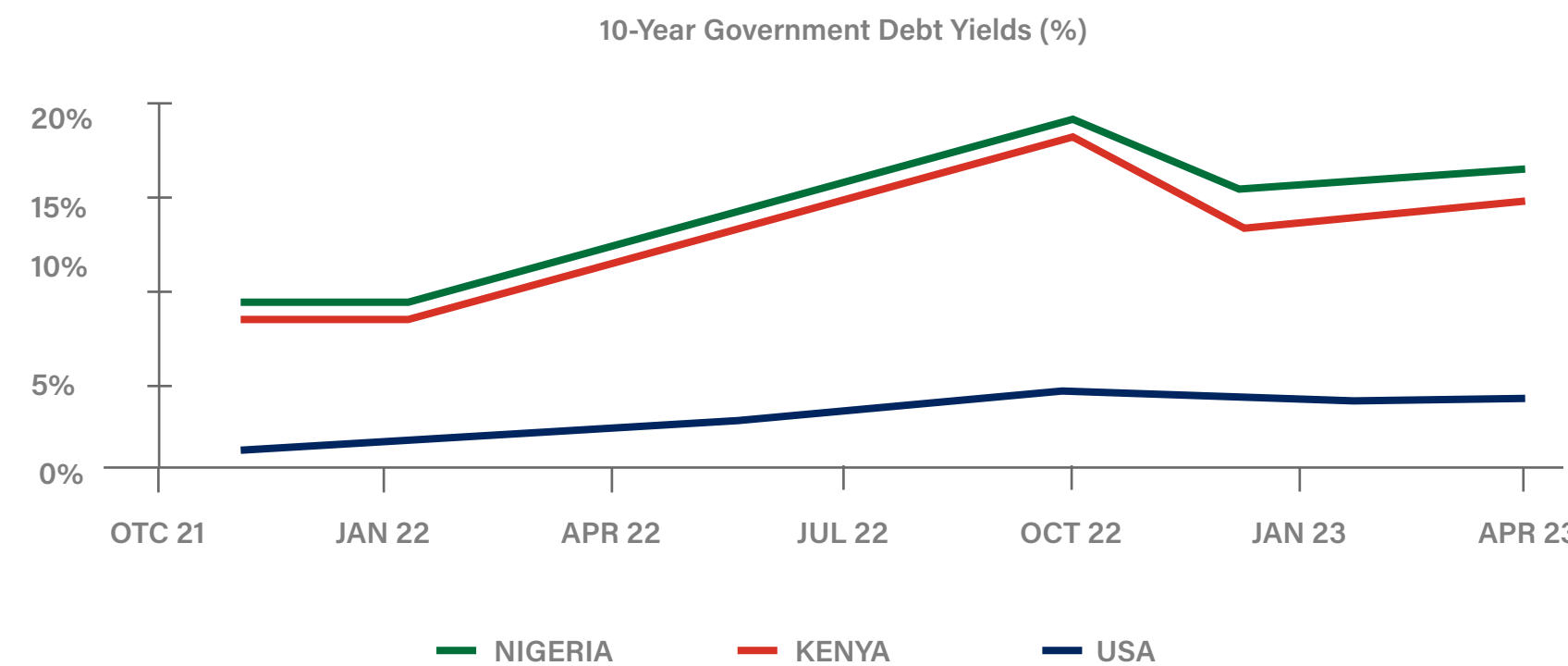
Senior Haematologist, Diagnostics company

Global financial conditions – driven by US monetary tightening cycle – are putting increased strains on African government budgets

Fiscal positions in Africa are increasingly strained



The cost of borrowing also continues to rise



- » Stemming from the pandemic, African governments have multi-faceted pressures being placed on their budgets, which has spillover effects into the healthcare sector.
- » Across the continent, last year’s activity bounced back, lifting GDP growth in 2021 to 4.7%. But growth in 2022 is expected to slow down sharply by more than 1 percentage point to 3.6% as a worldwide slowdown, tighter global financial conditions, and a dramatic pickup in global inflation spill into a region already wearied by an ongoing series of shocks.
- » Lower growth rates have put pressure on government budgets, which has caused them to have to go to debt markets for financing. The average debt-to-GDP ratio has already increased to over 70% in 2022, up from 60% in 2019. With fiscal deficits doubling to reach a historical high of 8.4% of GDP in 2020, COVID-19’s consequences for Africa’s debts may be dire.
- » The combination of lower growth, larger borrowing, and US monetary tightening has also put upward pressure on the cost of financing for these countries (as evidenced in the yield graph).
- » Taken together, this means that governments are increasingly constrained in their ability to pay for services which has a significant impact on the healthcare sector as it is very exposed to government spending across the value chain.
- » Even before the impacts of this fiscal pressure were onset, it was not unheard of for African governments to have extremely lengthy accounts payable cycles (in some cases >270 days) – increasing fiscal pressure will elongate these payment cycles, placing a greater burden on firms exposed to government.

Sources: IMF, AfDB, World Bank, Cbonds

Additionally, COVID-19 introduced multiple shocks to African healthcare systems at once...

SHIFTING CARE FOCUS

Amid bed shortages, there was a prioritization of medical facilities toward COVID-19 care, reducing availability of or purposefully deferring voluntary procedures as well as disrupting treatment for noncommunicable diseases (NCDs).

MOVEMENT RESTRICTIONS

Lockdown restrictions limited access to healthcare services both domestically and globally affecting medical tourism.

SUPPLY CHAIN DISRUPTIONS

Global supply chains were disrupted, especially in critical equipment and medicines. Africa was critically affected as countries prioritized domestic needs over exports which led to repurposing activities across the continent.

INFORMATION / DATA TRANSPARENCY

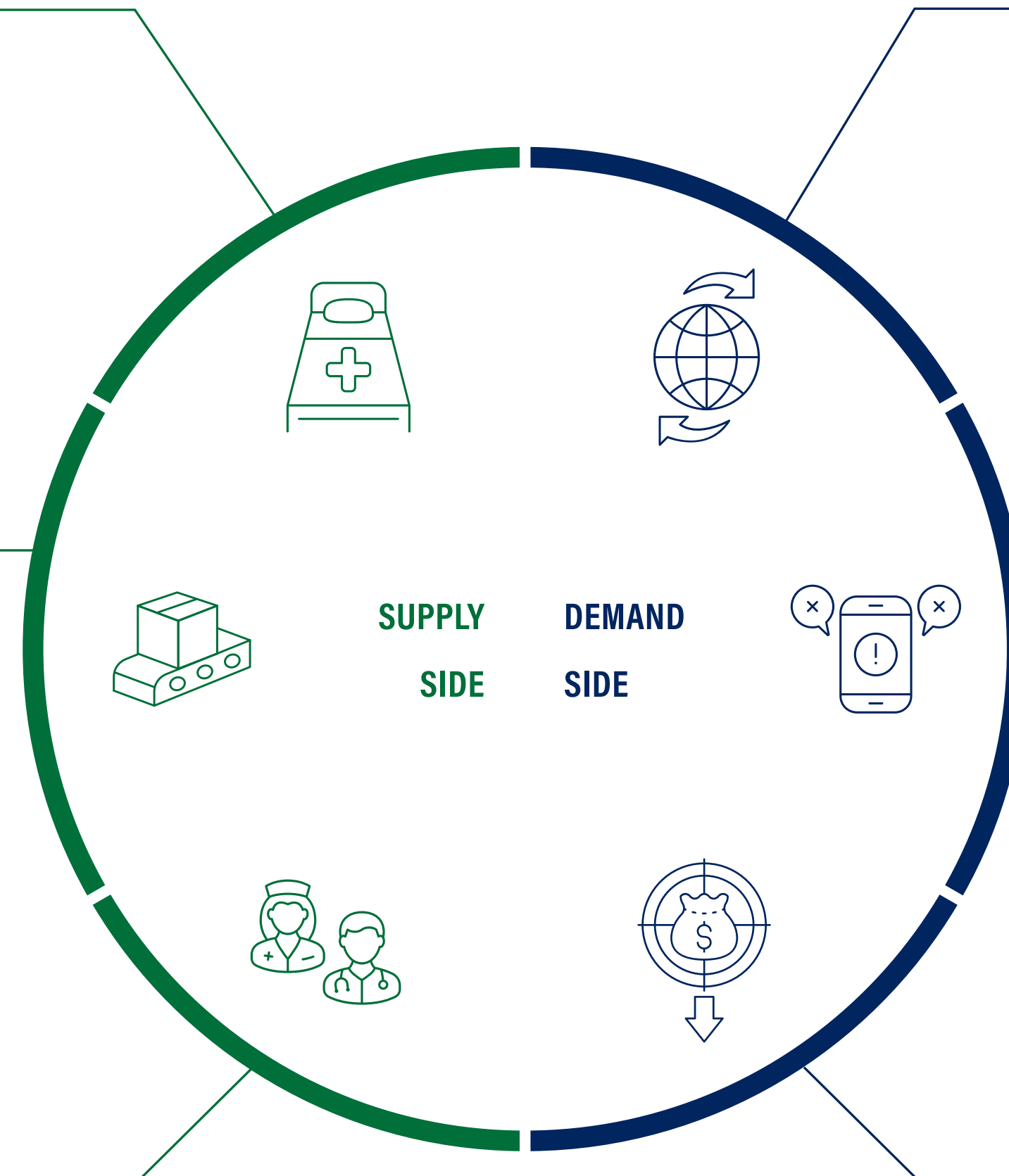
There has been vaccine hesitancy on the continent due to misinformation on efficacy and side effects which has contributed to Africa having a very low vaccine coverage compared to other continents. Additionally, medical statistics such as COVID-19 prevalence and vaccine uptake have been tough to monitor in real time.

PERSONNEL ATTRITION

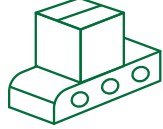



COVID-19 care put mental and physical strain on health workers who were already underpaid and caused burnout. This greatly contributed to the emigration of workers to countries with better quality of life.

REDUCTION IN INCOMES

The pandemic negatively impacted African economies pushing 40 million people into extreme poverty. This has led families to prioritize spending shifting away from healthcare.



...several of which have spurred trends which create growth opportunities in four key healthcare industries

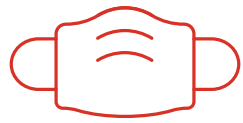
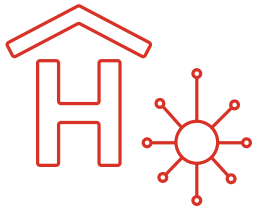
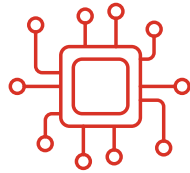



Disruption	Trend	Rationale for Investment	How investors can capitalize
 <p>SUPPLY CHAIN DISRUPTIONS</p>	<p>Localization of medical manufacturing capacity</p>	<ul style="list-style-type: none"> » Policy changes have created greater incentives for local manufacturing capacity. » Increased awareness by development partners of impact of international procurement. 	<p>Manufacturing of medical commodities/products, including pharmaceuticals and vaccines – particularly goods where value chains can be intra-Africa.</p>
 <p>MOVEMENT RESTRICTIONS</p>	<p>Increased uptake of remote care solutions such as telemedicine</p>	<ul style="list-style-type: none"> » New consumer habits created during the pandemic will likely endure, enabling continued HealthTech adoption. » Enables greater productivity in healthcare assets by reducing value chain bottlenecks. 	<p>Investments in care provision, including ‘asset light’ models that leverage technology can improve the productivity of healthcare assets (e.g., teleradiology).</p>
 <p>INFORMATION / DATA TRANSPARENCY</p>	<p>Expanding market for health services by stimulating patient demand through education</p>	<ul style="list-style-type: none"> » There is a continued demand for greater transparency in the healthcare system coming from both governments and patients. » Greater patient information also helps to increase demand within the system by empowering patient decision making. » Companies providing improved transparency and therefore trust can improve utilization in the healthcare system by empowering patients and helping reduce costs. 	<ul style="list-style-type: none"> » Healthcare Data Management and Analytics systems that can not only improve patient access to information to drive demand, but also improve health system management. » Digitally enabled care provision that can better track trends in care provision, and increase information in the system to improve CapEx investment decisions, while also empowering patients through increasing transparency.
 <p>SHIFTING CARE FOCUS</p>	<p>Continued shift from epidemic disease to non-communicable diseases (NCDs)</p>	<ul style="list-style-type: none"> » African populations represent an increasing proportion of those affected by NCDs, driving greater demand for longer term treatments like dialysis. » This is combined with the growth in middle class patients who have greater disposable income for healthcare. 	<ul style="list-style-type: none"> » Biomedical research and improved data on African populations is required to create more targeted interventions. » Specialized outpatient services (e.g., nephrology, IVF).

PROSPER AFRICA

» Market Overview



The healthcare sector breaks out into six broad sub-industries, with varying degrees of maturity in the African market

INDUSTRY	Healthcare Equipment and Services			Pharmaceuticals, Biotech & Life Sciences		
						
SUB-INDUSTRY	Equipment & Supplies	Providers & Services	Technology	Pharmaceuticals	Biotech	Life Sciences Tools & Services
	Medical devices Basic consumables and supplies Diagnostics	Distributors Drug retail ¹ Care provision and facilities Diagnostics provision	Information Technology services (electronic medical records / telehealth systems)	Research, development, or production of pharmaceuticals	Research, development, or production of products based on genetic analysis and genetic engineering	Companies servicing the discovery, development, and production continuum ²
AMOUNT INVESTED (USDM) ³	233	1,528	430	1,880	61	6

Source: GICS, CapIQ, Pitchbook

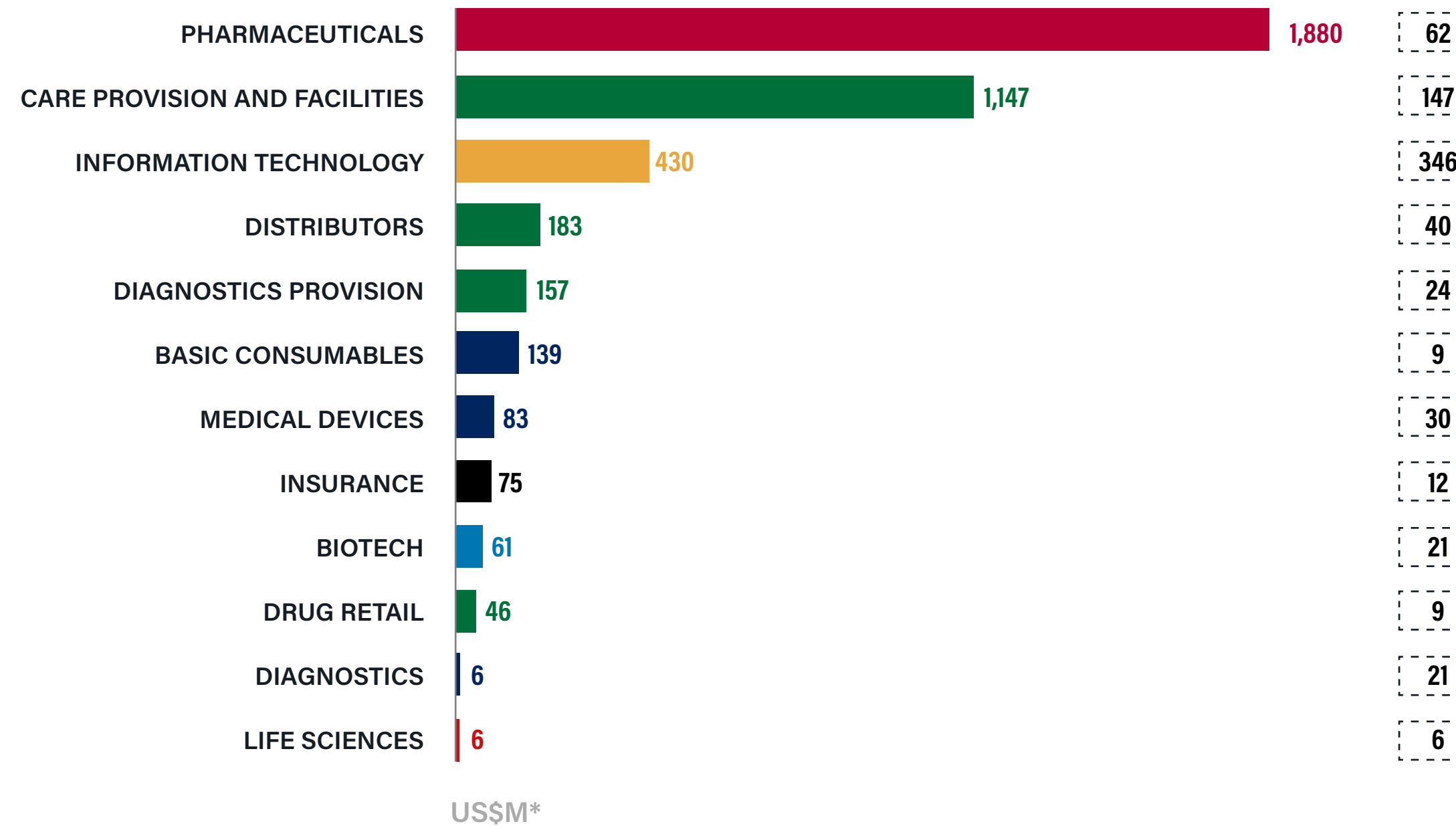
1 - Normally categorized as consumer staples

2 - providing analytical tools, instruments, consumables and supplies, clinical trial services, and contract research services

3 - Based on available data from CapIQ and Pitchbook

Since 2016, nearly \$4.2B¹ has been invested in African healthcare, with pharma being the main target by invested capital, and technology by deal count

Transaction size has been dominated by pharmaceuticals mostly due to large capex demands and export opportunities



- » Pharmaceuticals attracted the most capital as investors seek to capitalize on Africa's ambition to produce the pharmaceuticals it consumes domestically.
- » As demand for care provision increases and infrastructure build fails to keep pace, investment opportunities to meet demand continue to grow.
- » Health technology in Africa continues to experience significant growth. Young and growing businesses operate in a variety of verticals such as telemedicine, supply-chain management, and health literacy.
- » Biotech activity remains nascent, but international pharma is increasingly interested in tapping into the genetic diversity in Africa for clinical trials and therapy development.

*Excludes healthcare education/training
 1 - Excludes debt investment, grants, and volumes only include disclosed amounts

Since 2016, about 89% of the US\$4.2B¹ in equity investments made in African healthcare have been concentrated in five markets

MOROCCO US\$617M (15%)

Key sectors:

- » Pharmaceuticals (83%)
- » Care provision and facilities (17%)
- » Information Technology (0.3%)

NIGERIA US\$351M (8%)

Key sectors:

- » Information Technology (41%)
- » Insurance (21%)²
- » Biotech (13%)

SOUTH AFRICA US\$935M (22%)

Key sectors:

- » Care provision and facilities (35%)
- » Pharmaceuticals (28%)
- » Distributors (15%)

EGYPT US\$1.5B (35%)

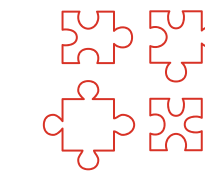
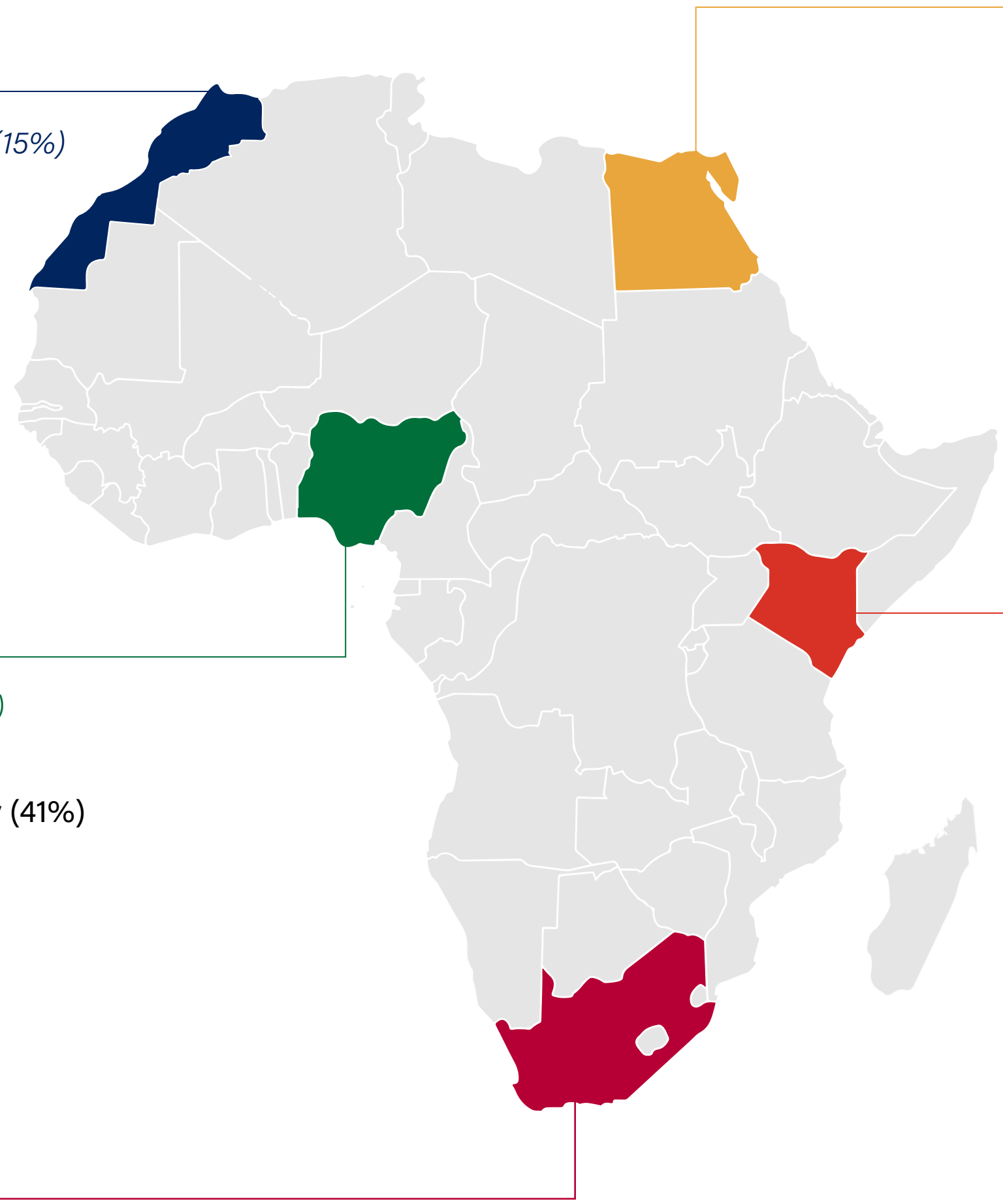
Key sectors:

- » Pharmaceuticals (69%)
- » Care provision and facilities (16%)
- » Diagnostic provision (8%)

KENYA US\$379M (9%)

Key sectors:

- » Care provision and facilities (76%)
- » Distributors (9%)
- » Information Technology (8%)



Investors have shown a preference for markets with sufficiently robust local business cases as regional integration remains a challenge due to disharmonious regulatory environments

Source: Pitchbook and CapIQ
 1 - Excludes debt investment, grants, and volumes only include disclosed amounts
 2 - Inflated by the US\$67M Hygeia HMO transaction

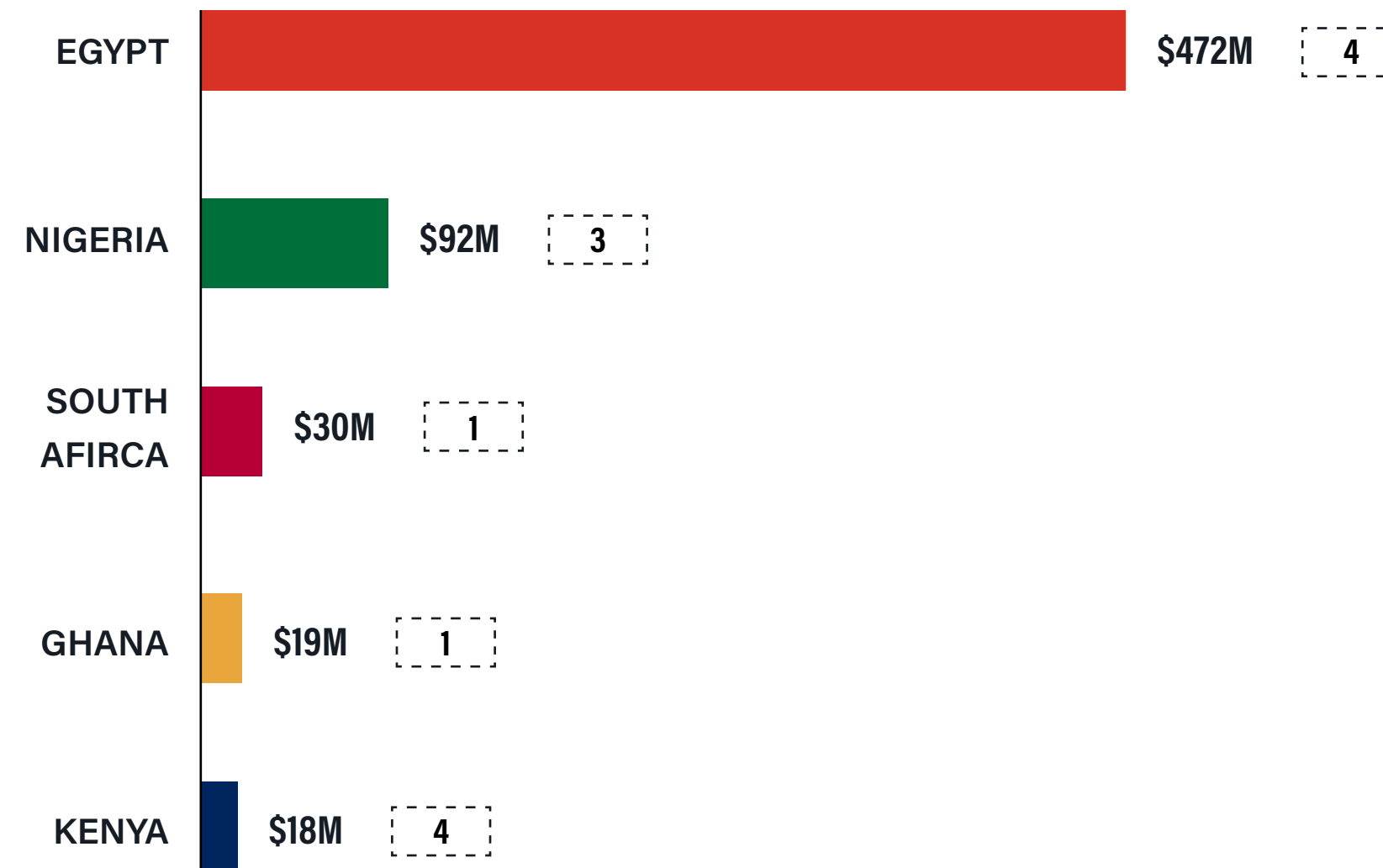
Private Equity has been the main asset class investing in African healthcare, with DFIs playing an important role

	ANGEL / ACCELERATOR / VC	PRIVATE EQUITY	DFIs ¹
MOST ACTIVE INVESTORS			
INVESTMENT VALUE (2016 - YTD 2023)*	US\$733M	US\$1.6B	US\$640M
TOP 3 SECTORS FOR INVESTMENT	Information Technology (52%) Care provision and facilities (27%) Biotech (8%)	Pharmaceuticals (67%) Care provision and facilities (18%) Basic consumables and supplies (7%)	Pharmaceuticals (44%) Diagnostic provision (21%) Care provision and facilities (20%)
TOP 3 COUNTRIES FOR INVESTMENT	Nigeria (29%) Ghana (28%) South Africa (13%)	Egypt (54%) South Africa (16%) Morocco (14%)	Egypt (74%) Nigeria (14%) South Africa (5%)
INVESTEE COMPANIES			

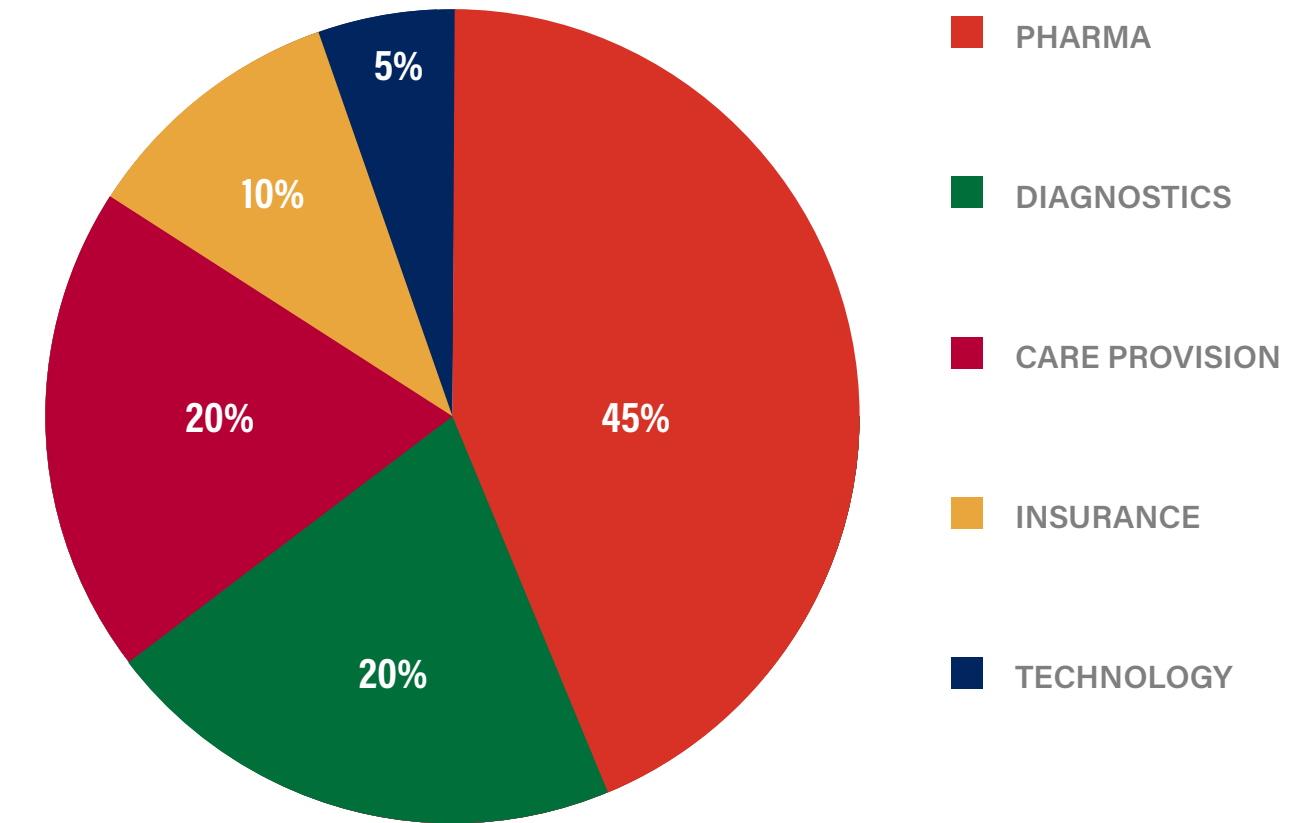
Source: Pitchbook, CapIQ
 1 - Transactions where a DFI was included, not exclusively DFI commitments
 *Excludes debt investment, grants, and volumes only include disclosed amounts

DFI investments¹ are concentrated in larger markets, and in more capital-intensive industries – additionally most sector exposure remains via funds

DFI Investment by Volume and Count



DFI by industry (% of volume)



- » DFIs have participated in ~15% of all deal volume in the period of analysis, making them a key part of the capital market across healthcare.
- » Given the need to place larger tickets, they have tended to focus on capital intensive sectors like care provision and pharmaceuticals – increasingly looking for ‘platform’ type investments in those areas where they can build scale businesses.

- » For many DFIs, most of their exposure will still come via intermediated investments, particularly in the technology industry – as companies continue to grow in nascent and less capital-intensive parts of the market there may be more opportunities for DFI participation in co-investment.
- » Unsurprisingly, DFIs have also focused on deeper capital markets where they will have greater exit opportunities and larger addressable markets.

Source: Pitchbook, CapIQ
 1 – Transactions where a DFI was included, not exclusively DFI commitments
 *Excludes debt investment, grants, corporate capital, and secondary market transactions (IPOs), and volumes only include disclosed amounts

Investor Profile – Flat6Labs



ESTABLISHED
2011

COUNTRY
EGYPT

AUM
US\$85M

INVESTOR TYPE
VC

INVESTOR OVERVIEW

Founded in 2011, Flat6labs is an active seed and early-stage VC based in Cairo. Although mostly focused on North Africa, Flat6labs is one of the most active accelerators and venture capital firms in Africa. The firm invests in several sectors, with about 7% of its currently portfolio of companies being healthcare enterprises. Flat6labs is currently investing out of its new Jordan Seed Fund, a 5-year and \$20M fund targeting investment into more than 90 tech enabled start-ups. The IFC is an investor in the funds.

SUB-INDUSTRIES OF FOCUS

Technology

Target Geography

MENA

INSTRUMENTS

Seed

Provide TA:

Yes

Ticket Size

US\$50-500K

SAMPLE PORTFOLIO COMPANIES



Investor Profile – AAIC Investment



ESTABLISHED
2013

COUNTRY
KENYA

AUM
US\$87M

INVESTOR TYPE
VC

INVESTOR OVERVIEW

Asia Africa Investment & Consulting is a Singapore-based investment firm with a significant focus on healthcare. Since 2016, AAIC has participated in more than 18 healthcare transactions. AAIC has mostly focused on Nigeria, Kenya, Egypt, South Africa, and Rwanda to a lesser extent. The firm prefers to invest in asset-light healthcare sub-sectors with their investment in Africa Healthcare Network, being one of the very few asset-heavy portfolio companies. In 2017, AAIC established its first Africa Healthcare Funds with AUM reaching \$47M. AAIC has since launched Africa Innovation & Healthcare Fund (AHF2), which had its first closing in March 2022. AAIC also invests early-stage venture capital. AAIC recently announced that the Development Bank of Japan (DBJ), QR Investment, TOPPAN Holdings, and others have invested in AHF2, taking the combined size of the two funds to US\$87 million. AAIC Investment has invested in 45 companies through AHF1 and AHF2.

SUB-INDUSTRIES OF FOCUS

Technology

Target Geography

Nigeria
Kenya
South Africa
Egypt

INSTRUMENTS

Seed, Series A, B, C

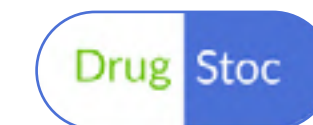
Provide TA:

No

Ticket Size

AHF1: US\$100K – 5M
AHF2: US\$200K – 20M

SAMPLE PORTFOLIO COMPANIES



Investor Profile – Alta Semper Capital



ESTABLISHED
2015

COUNTRY
UK

INVESTOR TYPE
PE

INVESTOR OVERVIEW

Alta Semper is a UK based private equity firm with sectoral focus on healthcare and consumer goods. The firm invests primarily in twelve African countries, with Morocco being one of its most active countries. The firm has made six investments to date, with two exits. Alta Semper is currently investing out of its Alta Semper ILERA Fund I. In 2019, the IFC approved a US\$15.5M LP equity investment into Alta Semper’s maiden fund.

SUB-INDUSTRIES OF FOCUS

Pharmaceuticals
Care provision
and facilities

Target Geography

East Africa (Kenya, Tanzania, Uganda, Ethiopia, and Mozambique)
North Africa (Egypt, Morocco, and Tunisia)
West Africa (Senegal, Nigeria, Ghana, and Côte d’Ivoire)

INSTRUMENTS

Growth / Expansion

Provide TA: No

Ticket Size US\$1M-50M

SAMPLE PORTFOLIO COMPANIES



CLINIQUE BADR

Source: Pitchbook, CapIQ
1 – Alta Semper sold its stake in HealthPlus to mPharma in September 2022.
2 – Alta Semper exited its holding in Macro Pharmaceuticals via a c. US\$178M IPO in February 2022

Investor Profile - IFC



ESTABLISHED
1956

COUNTRY
USA

AUM
US\$44B+

INVESTOR TYPE
DFI

INVESTOR OVERVIEW

The IFC is one of the most active DFI investors in African Healthcare followed by the British International Investment. Within its diversified portfolio of investments, healthcare makes up about 8%. IFC has previously co-invested with other DFIs in the healthcare space in Africa, for example, in 2020, the IFC and Swedfund acquired AAR Healthcare for \$14.6M. IFC prefers to invest through means of buyouts and growth capital. Although the IFC has no specific geographic mandate, the investor has previously mostly focused on Nigeria, and Kenya, Egypt, Uganda and Tanzania.

SUB-INDUSTRIES OF FOCUS

Care Provision
Diagnostic provision
Technology

Target Geography

Nigeria
Kenya
Tanzania
Egypt

INSTRUMENTS

Equity, Debt

Provide TA:

Yes

Ticket Size

US\$100K-100M

SAMPLE PORTFOLIO COMPANIES



Investor Profile – AfDB



ESTABLISHED
1963

COUNTRY
COTE D'IVOIRE

INVESTOR TYPE
DFI

INVESTOR OVERVIEW

AfDB can make direct investments so long as transactions are above their minimum threshold of US\$30M. Given their larger ticket size, AfDB tends to invest through funds. In 2022, the bank committed to investing \$3 billion in Africa’s pharmaceutical industry over 10 years as part of its health agenda. In 2020, approved a \$10M equity investment into Razorite Healthcare Africa Fund 1 (RHAF1) to help improve healthcare infrastructure delivery across the continent.

SUB-INDUSTRIES OF FOCUS

Care Provision

Target Geography

Pan-African

INSTRUMENTS

Equity, Debt

Provide TA:

Yes

Ticket Size

Minimum of US\$30M

SAMPLE PORTFOLIO COMPANIES

Kibo Fund II managed by



Invested in



Rwanda Innovation Fund managed by



Invested in



Mediterrania Capital III managed by



Invested in



Listed healthcare companies in Africa have seen multiple compression, likely on the back of flight to safety driven by US monetary tightening

EV/Revenue for listed healthcare companies in Africa¹

	2019	2020	2021
Average	1.8x	1.9x	2.2x
Median	1.5x	1.6x	1.7x
High	5.3x	3.9x	5.3x
Low	0.6x	0.6x	0.5x

EV/EBITDA for listed healthcare companies in Africa¹

	2019	2020	2021
Average	15.2x	12.4x	12.6x
Median	10.5x	10.5x	11.2x
High	44.6x	20.6x	29.1x
Low	4.6x	4.7x	3.9x



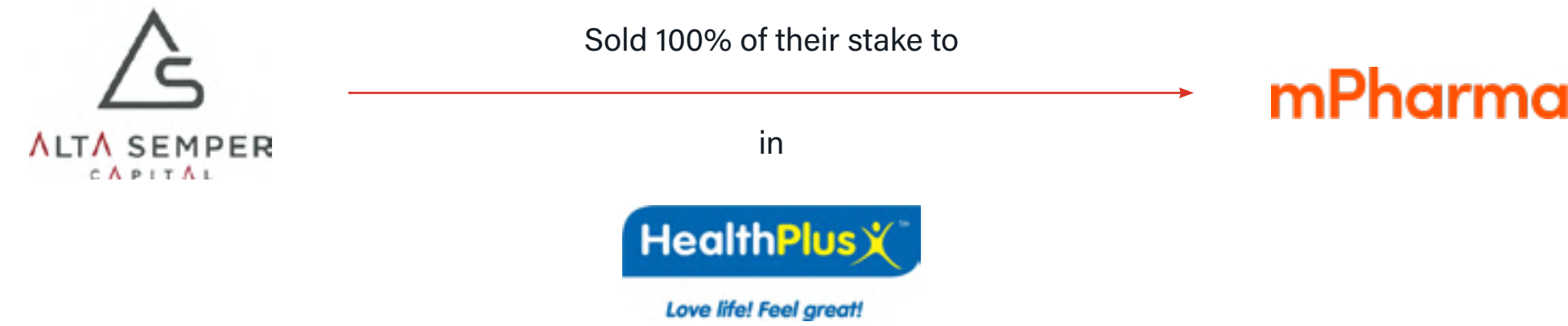
Given publicly listed companies in Africa are mature and stable companies (mainly commodity manufacturing and health provision) with positive EBITDA, valuation multiples based on the EBITDA metric are more appropriate as opposed to revenue multiples which are more suitable for early-stage companies.

We have seen a **multiple compression in EV/EBITDA brought on by the tighter monetary environment**. As these companies are mostly defensive this likely reflects macro impacts versus secular rotation.

Over the last 3 years, **the average Enterprise Value to revenue multiple has remained relatively stable**.

Source: Capital IQ
 1. Excludes companies trading at or near zero multiples

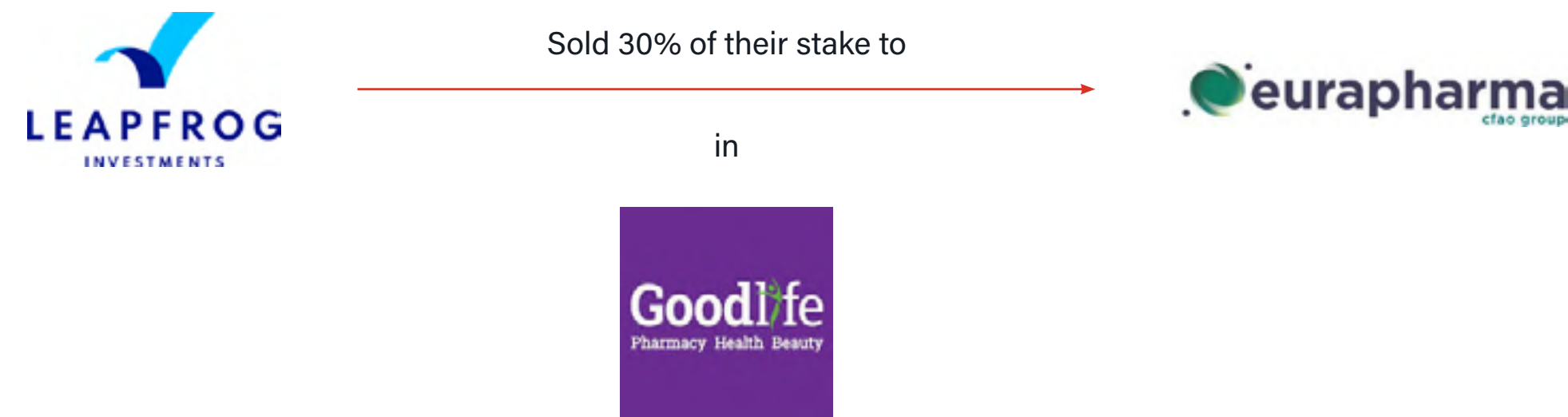
Limited exit activity for healthcare transactions within the region is in line with the broader exit environment, with trade exits being a preferred route



Alta Semper Capital **sold 100% of its stake in HealthPlus** for an undisclosed amount to mPharma in September 2022.

HealthPlus is **one of Nigeria's leading retail pharmacies**. It's Nigeria's first integrative pharmacy and healthcare provider with over 80 branches located in major cities across the country.

The exit was a trade sale; a complete acquisition by a Ghanaian health-tech company looking to expand to Nigeria, to take advantage of the growing healthcare sector.



LeapFrog Investments **sold 30% of its stake in Goodlife Pharmacies** for an undisclosed amount to Eurapharma in March 2022 and continues to retain a majority position.

Eurapharma is the healthcare division of CFAO Group and one of the **leading wholesalers of quality pharmaceutical products** in Africa, where it owns and operates subsidiaries in 23 countries.

The sale was a **strategic decision** by Leapfrog who wanted to partner with a leading player in pharmaceutical distribution in Africa to help Goodlife execute on its expansion strategy.

Source: I&M Burbridge Capital East Africa Financial Review, PitchBook. Financial information not available.

Benchmarking transactions based on precedent exits is challenging given the thin IPO market in recent years and opaque strategic exits

Select pharmaceutical IPO exits

Asset	Seller	IPO year	Deal size / Revenue	Deal size / EBIT
Rameda	Compass Capital	2019	2.05x	8.79x
Cipla (Uganda) ¹	TLG capital, Capital Works	2018	NA	NA
Ibnsina	ERBD	2017	0.16x	6.91x
Biopahrm	DEG, Mediterrania, DPI	2016	NA	NA

Select healthtech exits

Asset	Seller	Buyer	Deal size / Revenue	Deal size / EBIT
Healthplus	Alta Semper	mPharma	NA	NA
Doctor Online	Falak Startups	CheckMe (Strategic)	NA	NA
DabaDoc	Vertica Health	Advanced Human Imaging (Strategic)	NA	NA

Select diagnostic provision exits

Asset	Seller	Buyer	Deal size / Revenue	Deal size / EBIT
DilenyTech	Tech Innovation & Entrepreneurship Center	Astute Imaging (Strategic)	NA	NA
SG Diagnostics	Scientific Group	Ascendis (Strategic)	NA	NA

IPOs in 2022 were very sluggish across the industry, with the only notable transaction being in care provision and facilities – Mediterrania Capital Partners exited their investment in Akdital Group, a leading private clinic group in Morocco with a network of 17 multidisciplinary and specialized health establishments across the country, through listing on the Casablanca Stock Exchange.

Benchmarking against precedent exits remains a challenge due to the lack of robust data. Data is mostly available for IPO exits, and finding enough comparable exit transactions under similar market conditions is also a hurdle since the IPOs remain sporadic. Exits to strategic and financial investors are opaque, making it hard to get valuation benchmarks.

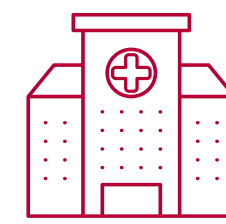
To date there has not been any African healthtech company mature enough to be publicly listed, limiting exits to strategic and financial buyers. A similar observation can be made with diagnostic provision where most activity involves small companies being wholly acquired by strategic buyers.

Source: CapIQ
 Note 1: Cipla Quality Chemical Industries Limited Uganda is drug maker, majority-owned by India's pharmaceutical giant Cipla. Uganda's Quality Chemicals, the Government of Uganda, and Cipla set up the company as a JV in 2005. TLG Capital and Capitalworks Investment Partners subsequently invested in the company in 2009.

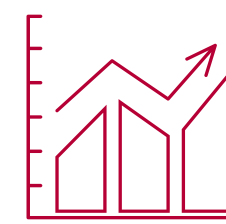
PROSPER AFRICA

- » Industry Spotlights
 - Pharmaceuticals
 - HealthTech
 - Diagnostics Provision

Looking beyond care services, there is an increasing set of investment opportunities in pharma, diagnostics provision, and healthtech



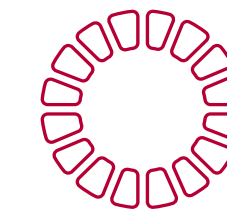
While there is a significant need for care services investments, much of the activity is concentrated in larger markets that have robust public-private partnership frameworks for care services. Additionally, many investors have shied away from direct care services due to larger infrastructure investment needs which can be quite capital intensive. To be sure, there are opportunities in this industry, but they will not be the focus of this report.



Looking at opportunities for established growth investors whose preference is for ticket sizes between US\$10-20M, the pharmaceutical, diagnostic provision, and healthtech industries offer an increasing set of opportunities.



Increasing localization of pharmaceutical supply chains due to a pronounced need for African markets to be pharma self-sufficient will accelerate market size growth in many African markets. Similarly, the realization of the need to invest in diagnostic provision on the back of the COVID-19 shock will produce further capacity and deepen this market. Healthtech is another lever that African markets can pull to leapfrog expensive traditional models – this is a growing market that can drastically improve healthcare asset productivity.



Pharmaceuticals, diagnostic provision, and healthtech all have strong development impact potential. Investment in pharmaceuticals in Africa will build more local production capacity and strengthen supply chain resilience. Investment in diagnostic provision would contribute to early detection and better management of diseases. Similarly, building strong and sustainable healthcare systems in Africa requires improvements in health asset productivity and efficiency, with technology playing a leading role in achieving that.



In what is a fairly shallow pool of investment opportunities (relative to other markets like India), pharmaceuticals, diagnostic provision, and healthtech industries are some of the most active, and have received a significant proportion of healthcare capital flows. There is also growing interest in these industries by strategics making subsequent exits opportunities in these spaces more likely.

PROSPER AFRICA

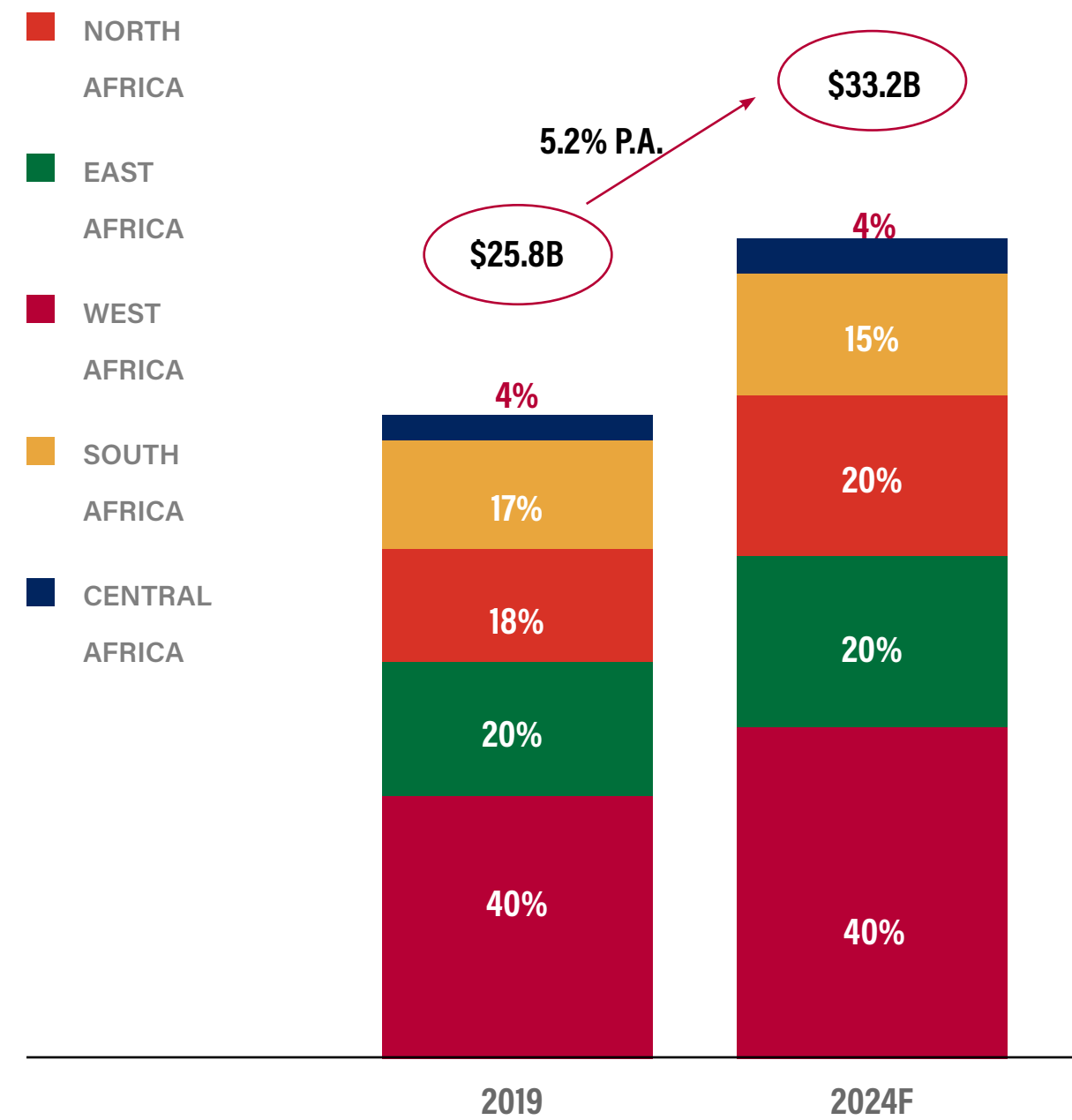
Industry Spotlights

- » Pharmaceuticals
- HealthTech
- Diagnostics Provision

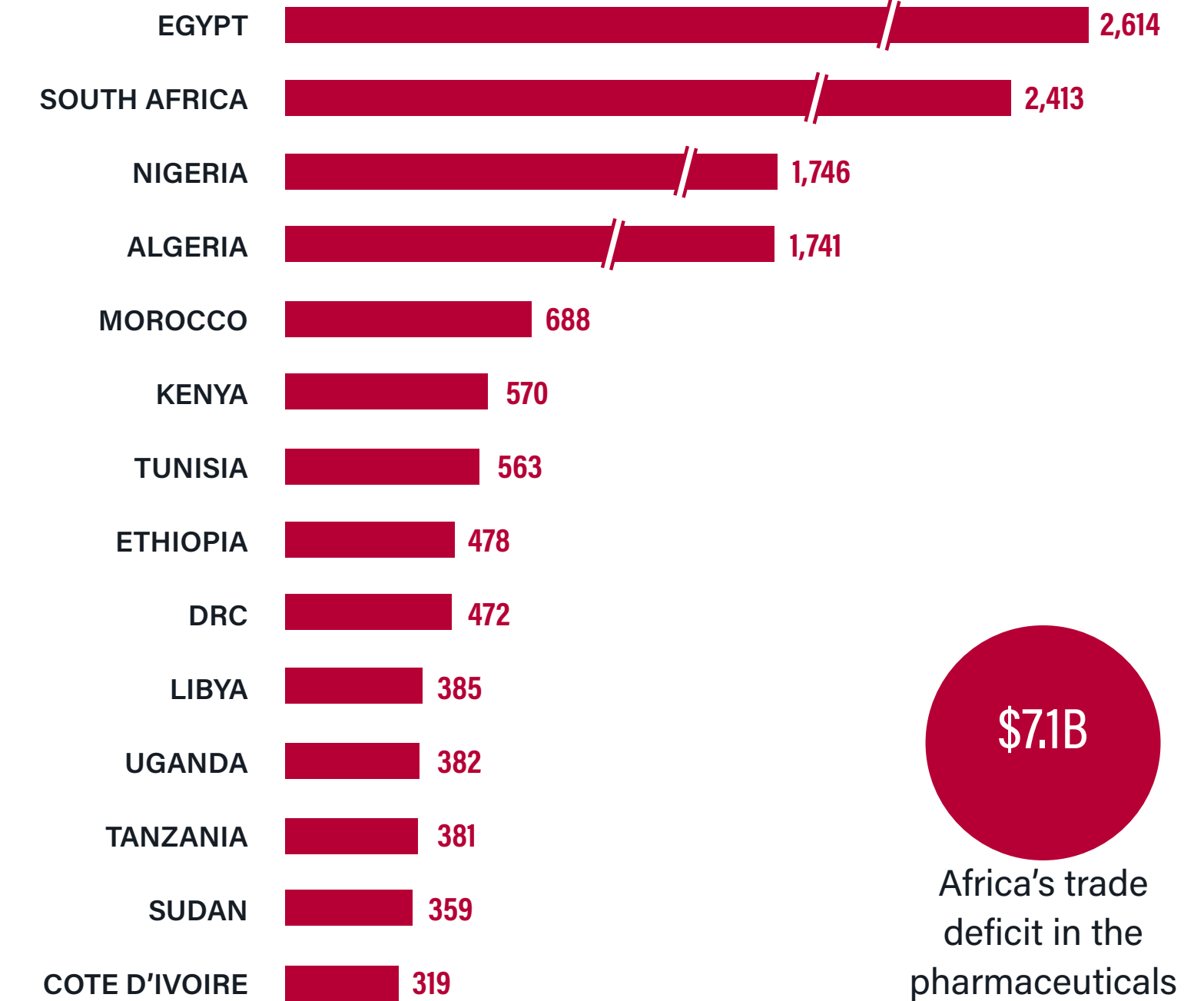
PHARMACEUTICALS

The African pharmaceutical market is expected to reach \$33B by 2024, with a 5.2% p.a. growth - but current domestic production will not meet demand

Total expected sales of pharmaceutical products per region



Top importers of pharmaceuticals (\$M) in 2020



\$7.1B

Africa's trade deficit in the pharmaceuticals sector in 2020

The market for pharmaceutical products will continue to grow across Africa, driven increasingly by the change in disease burden and the need for therapeutics to manage chronic disease

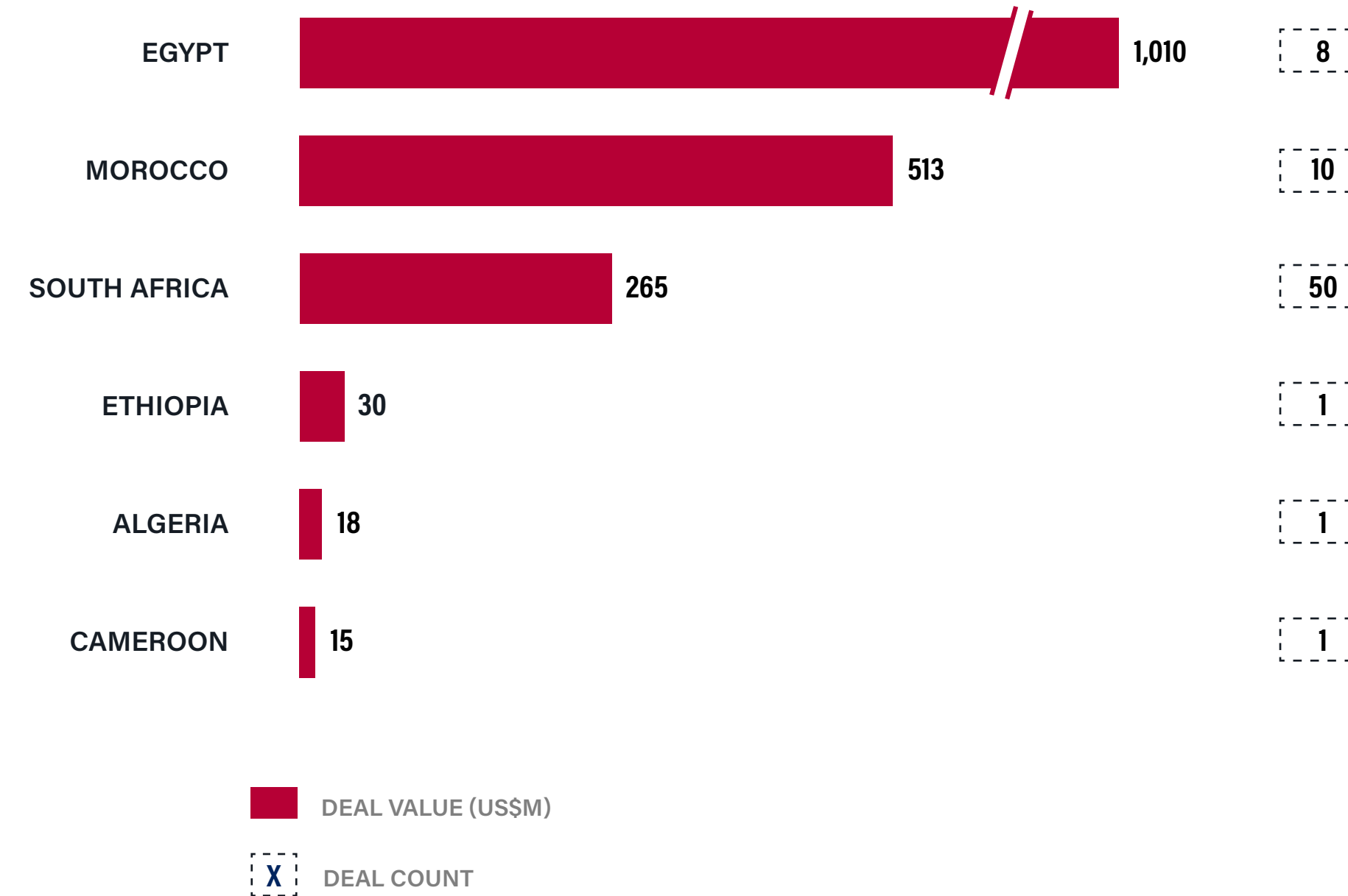
Domestic production will not meet demand, presenting an increased opportunity to expand production capacity - especially in large markets that have a local demand sufficient for scale

Source: Fitch, IQVIA, ATI Industry Trends and Prioritization Report (McKinsey 2021)

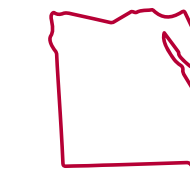
PHARMACEUTICALS

Egypt attracted 54% of disclosed investment in pharmaceuticals since 2016, driven by its developed industrial base and skilled workforce

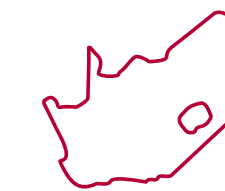
Egypt attracted the most pharma. capital while South Africa had the highest number of transactions¹



» The largest disclosed deal in the market took place in Egypt, where Amoun Pharmaceutical Company was acquired by ADQ for US\$740M in 2021 via a leveraged buyout



» Egypt has been a choice destination for large scale manufacturing investment due to its more developed industrial base that offers opportunities for pharmaceutical manufacturing



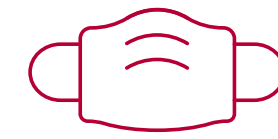
» South Africa has attracted the largest number of deals largely focused on pharmaceuticals and medical device manufacturing because of its relatively strong regulatory environment and deep industrial base and capital market



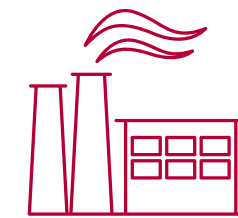
» China is increasingly active in this space, with both Chinese investor and suppliers playing a greater role across the industry

Source: CapIQ, Pitchbook
 1 - Based on disclosed transaction values, only equity investment

COVID-19 highlighted Africa's reliance on imports of critical medical goods, including pharmaceuticals



Africa **imports >80%** of its medical consumables, **>72%** of which were subject to **temporary trade measures** in May 2020



Africa has **328** pharmaceutical manufacturers to serve **1.1B** people

China has as many as **5,000**; India has **10,500** – each with populations of roughly **1.4B**



Most sub-Saharan African countries **import 70-90% of drugs consumed**, and import more than **98% of the vaccines administered**



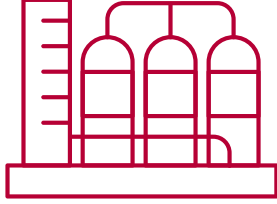


Given these supply chain constraints, there is an increased awareness that for health security reasons Africa must produce more of its medical goods – including vaccines and pharmaceuticals



Source: Inside Africa's Push to Make its Own Medicines, IFC (2021), Should sub-Saharan Africa Make its Own Drugs?, McKinsey (2019)

PHARMACEUTICALS

Given the need for economies of scale in APIs, more opportunities will exist in the manufacturing and packaging parts of the value chain

	APIs	MANUFACTURING	PACKAGING
			
DESCRIPTION	Active pharmaceutical ingredient production is the development and mixing of substances that have a pharmacological effect when used in the manufacturing process	The synthesis of APIs and other stable compounds to create pharmaceutical products intended to have desired therapeutic effects	Packaging and finishing of pharmaceutical products for end sale
INVESTMENT OPPORTUNITY	Greenfield sites in markets that have a sufficient local manufacturing capacity to meet increased supply	Expand existing downstream capacity to include end-to-end value chain production (incl. drug substance production)	Expansion of downstream capacity of existing manufacturers to increase local low-cost supply
OPPORTUNITY SET	Limited	Moderate	High



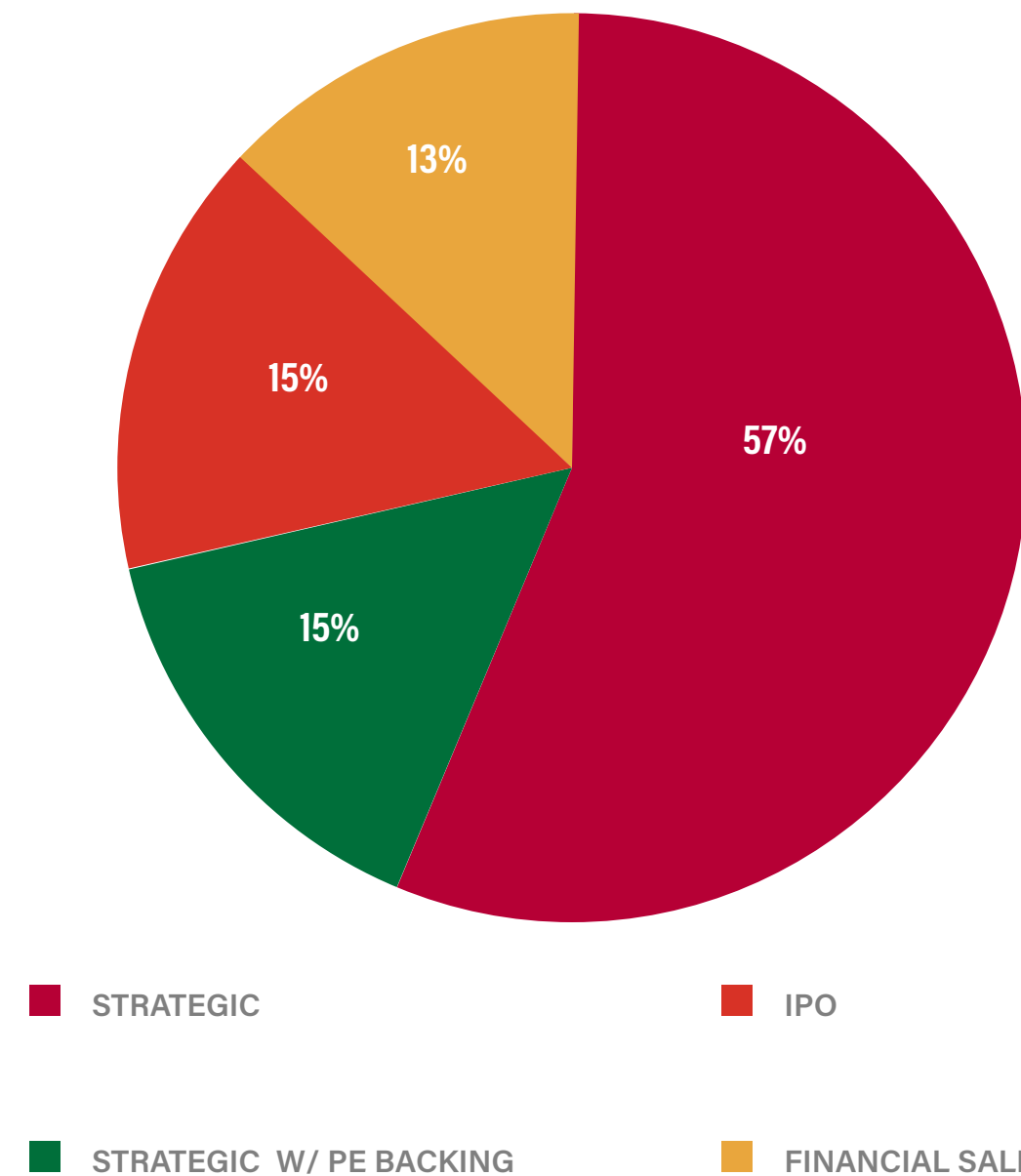
- » Most of the manufacturing industry in Africa is **focused on downstream drug products and packaging.**
- » **African manufacturers focus more on chemically synthesised drugs vs. biologics and are less integrated** than international competitors along the value chain.
- » **There are limited API manufacturers** with limited product portfolios, e.g., producing quinine, used to treat malaria.
- » **R&D capacities are very limited** and mostly located in South Africa.
- » As health security becomes more appreciated by countries **more activities and players are expected upstream.**
- » Given ticket size and liquidity requirements investors **should focus on companies executing a buy-and-build strategy.** These companies are more likely to have the need to **deploy capital at a scale big investors require and will be more attractive targets for either strategic acquisition or public exit.**

Source: ATI Industry Prioritization, Prosper Africa Healthcare Report

PHARMACEUTICALS

Exits in pharmaceuticals were mostly strategic investors, with investors increasingly looking for platforms to scale particularly in MENA

Exit pathways in Pharmaceuticals¹



Most of the exits in the past 7 years have been to strategics. There has also been several strategic acquisitions backed by PE firms who are looking for portfolio companies to strengthen market positioning. IPOs remain an opportunity mostly for companies in North Africa (Egypt, Algeria, Tunisia).

Notable investors and transactions



KelixBio alongside its financial sponsors; DPI, BII, and EBRD, are creating a pharmaceutical platform across India, Europe, and MENA to meet the growing demands for quality therapeutics. It is an interesting case of development financiers backing an acquisitive company looking to grow both organically and inorganically in this impactful industry.



The \$740M LBO of Amoun Pharmaceutical Company by the Abu Dhabi Development Holding Company is indicative of the increased interest by large investors in the industry in MENA, especially to meet the demands of export markets in Europe and the GCC. Amoun is one of Egypt's leading manufacturers, distributors, and exporters of branded pharmaceutical and animal health products.



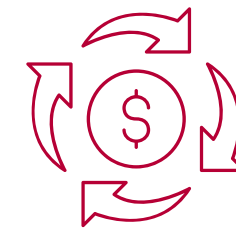
SPE Capital and Proparco acquired Amanys from the Saham Group through an LBO in 2020. Proparco invested \$12 million for a minority equity stake in the company. Through the acquisition, Amanys aims to accelerate the growth of the company, by consolidating its position in the manufacturing of antibiotics in Morocco, integrating it further into the hospital value chain and continuing to develop it internationally.

1 – Exit data since 2012 to date

While opportunities exist across the continent in pharmaceuticals, there are several key challenges to consider during opportunity diligence

CHALLENGE

BARRIER



Mismatch of production costs and local purchasing power

Key cost drivers include imported inputs (general lack of supply in APIs as an example) and a shortage of skilled labour specialized in disciplines relevant to the pharma sector (such as pharmacology, chemistry and biology) and high labour and company-borne training costs. Another cost challenge is fragmented production across small countries which lack the necessary scale for more cost-effective production.



Competition from international suppliers and counterfeits

African suppliers find it difficult to compete against well-established large scale producers in countries such as India and China because they largely focus on generic production for a large, at-scale domestic market. Pharmaceuticals producers also face pressure from the counterfeit and expired drugs markets, as these goods are sold for much less than locally produced certified products.



Environmental challenges

Businesses across different countries identify waste management systems as the top problem. They cite a lack of regulatory clarity on how to deal with contaminated and hazardous waste and the often-inadequate systems to treat waste such that it does not harm the environment or human health.



Regulatory and procedural challenges, including trade barriers

In the pharma industry, 80% of trading companies face obstacles when exporting to African markets and 60% face obstacles when sourcing inputs from the continent. These percentages exceed those in other many other value chains. Pharmaceuticals firms raise concerns about the time, cost and bureaucracy to register a product, which must be done separately in each country, with differing requirements, and limited recognition of quality certifications between countries.

PROSPER AFRICA

Industry Spotlights

Pharmaceuticals

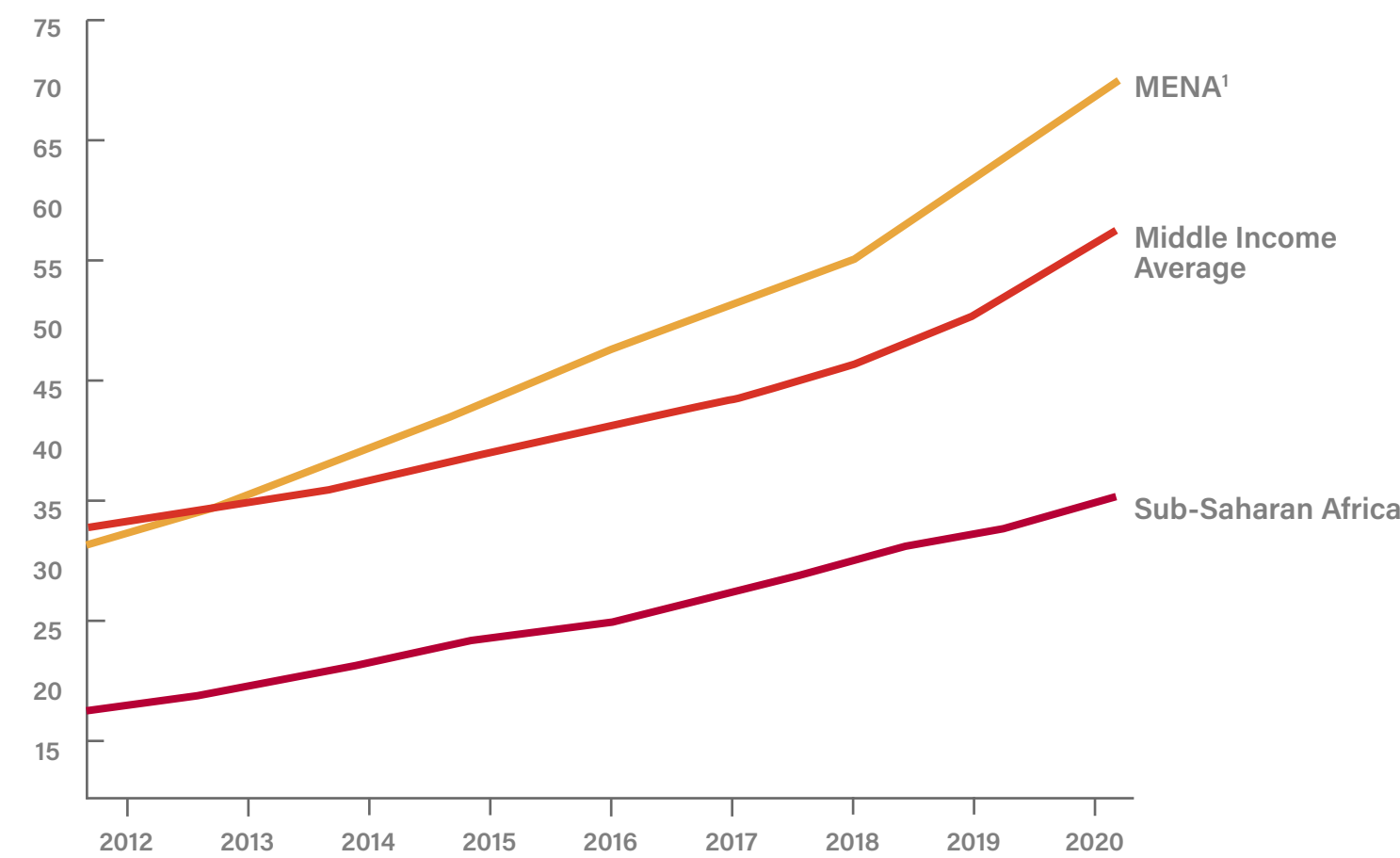
» HealthTech

Diagnostics Provision

Improved digital connectivity across Africa is driving a secular push into technology investment, unlocking new ways of working in healthcare

African technology adoption is increasing, but still lags other developing market peers

Individuals using the Internet (% of population)



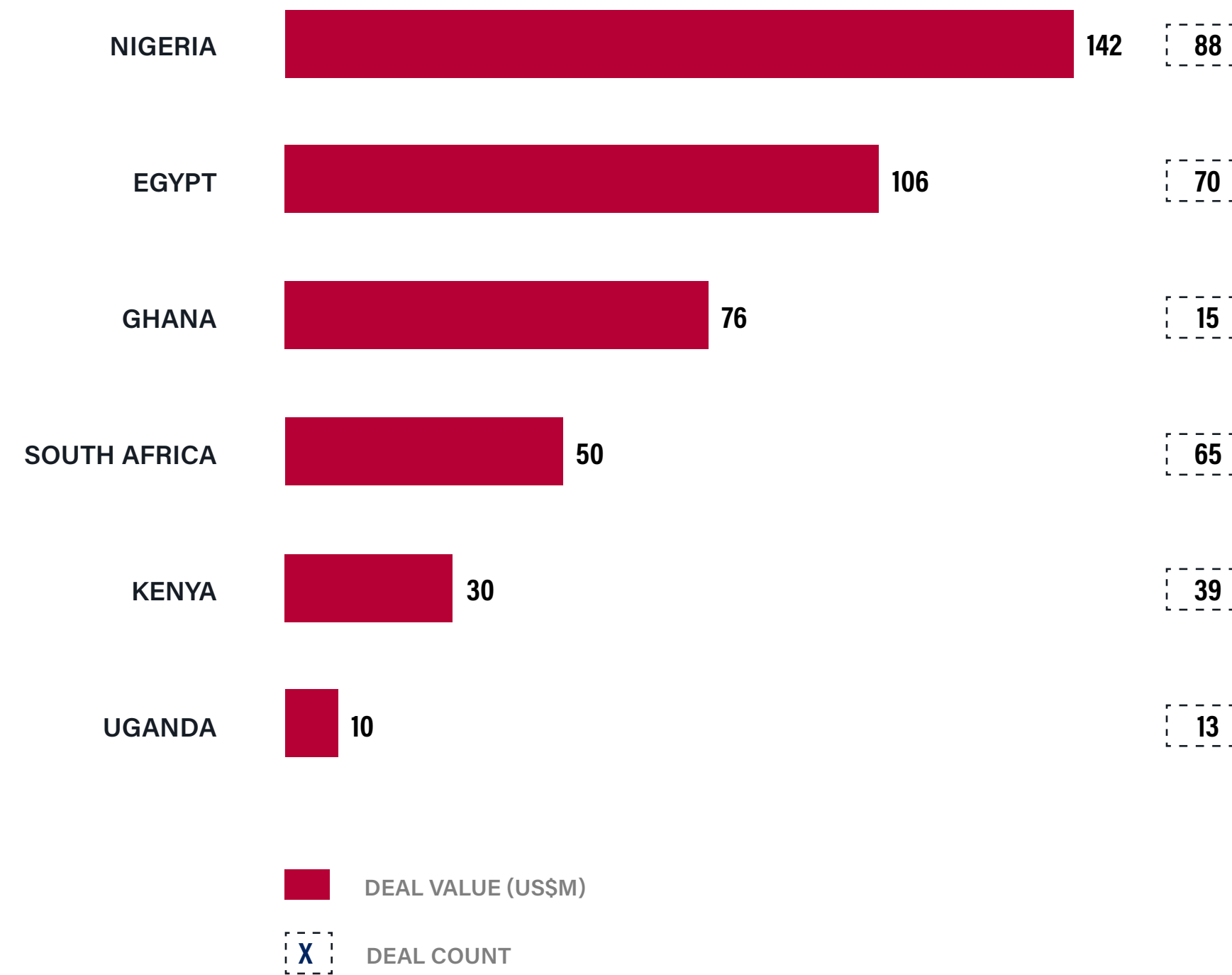
Internet penetration continues to improve across Sub-Saharan Africa, but is still well below middle income averages. MENA in contrast is above middle income averages and continues to increase.

- » Africa has seen leapfrogging technology offer massive gains in areas like telecommunications and banking, and there is promise for aspects of the healthcare landscape to do this as well.
- » As was made clear in the introduction, the infrastructure gap in African healthcare makes clear the need to make what existing healthcare assets in place more productive and efficient.
- » One crucial way to do that is to digitize and improve the technology available to healthcare assets already in place – giving care providers better tools and technology to see more patients, and to ensure those patients get better clinical outcomes through care that is spatially located closer to them.
- » Given the typical company profile (usually businesses focusing on technology with scale economics) this industry has drawn mostly venture capital investment, as would be expected. However, contrasted to other industries that have received more VC investment across Africa (namely Fintech) this opportunity to digitize and improve technological penetration in African healthcare also presents a rate limiter – at the end of the value chain there is a doctor, pharmacist, nurse or community health worker that is seeing patients – unlike in fintech where the total addressable market on transactions is merely limited by economic growth generally, healthcare has natural rate limiters outside of pure economic growth.
- » However, the opportunity to leapfrog to better technology is still an attractive investment thesis, especially as the continent continues to reach internet penetration levels comparable to other regions.

Source: World Bank
1 – Excluding high income countries

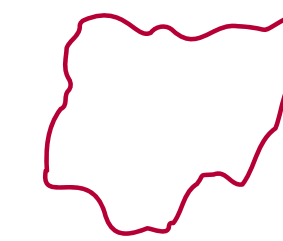
Investments in health technology companies have focused on larger markets where local demand is sufficient to offer scale before regional expansion

Nigeria attracted the most tech capital by deal size and deal count¹

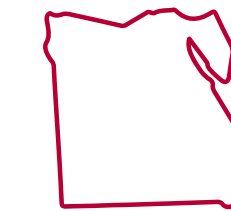


mPharma

» mPharma is the largest healthtech company, having raised \$74M since 2014 – accounting for almost all of the capital invested into Ghana in the industry.



» Nigeria has attracted the most investment of any country, largely attributable to the massive market opportunity given the population size and increasing healthcare spend.



» Egypt similarly has a domestic market that offers scale opportunities, but also offers a gateway to GCC countries.



» Naturally, VC has made up the vast majority of investment into the healthtech industry with some of the most active investors including AAIC and Global Ventures. Y Combinator has backed 6 ventures in African healthtech to date.



» There is also increased interest in corporate backed accelerators like the Novartis/Norrskan HealthTech Hub in supporting the ecosystem.

Source: CapIQ, Pitchbook
 1 Based on disclosed transaction values

Technology is making Africa's healthcare system more productive and efficient - with a focus on digitizing services and distribution

Technology implemented across African healthcare can largely be split by service provision and distribution

Across these different verticals, there are both asset light and asset heavy models - all hinging on some form of technology implementation

Service Provision

Electronic medical records systems
Telehealth & monitoring
Care management
Analytics & population health



Electronic medical records service that is seeking to digitize low resource, complex healthcare systems. SaaS business model with potential for growth into other adjacencies (insurance, supply chain management, etc).



Digitizing and enabling higher value add care through an electronic medical records service that then allows Ilara to underwrite financing for assets, pharmaceuticals, and eventually for patients.

Distribution

Supply chain management
E-pharmacy and marketplaces
Logistics



Digitizing trade channels to improve interaction between suppliers and retailers, as well as providing point of sale product verification to defend against counterfeit products.



Automated on-demand delivery utilizing drone technology paired with an inventory management and fulfilment system to ensure inventory is tracked from end to end.

HealthTech firms often end up bridging this asset light / heavy divide due to the need to vertically integrate, which requires debt and growth capital

For many companies, what begins as a digital forward business often evolves into a vertically integrated solution because of the gaps in the market

- » An initial insight might lead the entrepreneur to seek to digitize clinics, offer better supply chain management to pharmacies, or conduct biomedical research using African genomes – but the reality of health infrastructure in Africa becomes a challenge.
- » In many cases the roadblocks to the growth of those initial business insights become non-digital, hard infrastructure gaps – the clinics need financing for assets, the pharmacies need better and more consistent supply chains and distribution, and to get the samples to sequence the biotech company needs diagnostic lab capacity.
- » As these companies enter different parts of the value chain to make their core technology offering more valuable, they require different types of capital to grow – VC investment that hinges on near marginal cost of sales does not lend itself well to CapEx intensive business models.
- » Many companies in the HealthTech space that have had to adapt and evolve to meet the market reality across Africa - increasingly debt and more 'growth' type equity investment is more appropriate for the type of CapEx that is required to accomplish this – where partners can be invaluable.

“ African businesses need to build their own bridge to cross the river. They need the infrastructure first to support the technology that drives innovation in healthcare

*CEO & Founder,
Biomedical Research company*

Case study: mPharma

- » In 2014 mPharma was initially developed as a mobile and web-based electronic prescription network app to enable doctors to know the exact location and availability of medicines in real time
- » mPharma then developed a Vendor Management Inventory system – connecting drug companies to retailers, and aggregating demand across smaller pharmacy vendors to offer lower prices and more consistent demand
- » This then evolved to the QualityRx solution, where mPharma is offering interest-free loans to pharmacies to make improvements to store-fronts and equipment
- » mPharma has now also acquired large pharmacy chains like Haltons and HealthPlus to increase its footprint and improve access to quality medicines

Given the nascent stage of the industry there have been very few exits, and only to strategics – ‘bluechip’ international VCs remain active in the space

Strategic Acquisitions in Health Tech



The company was acquired by Sanlam in 2022.1 AfroCentric Technologies is an investment holding company focused on African healthtech.



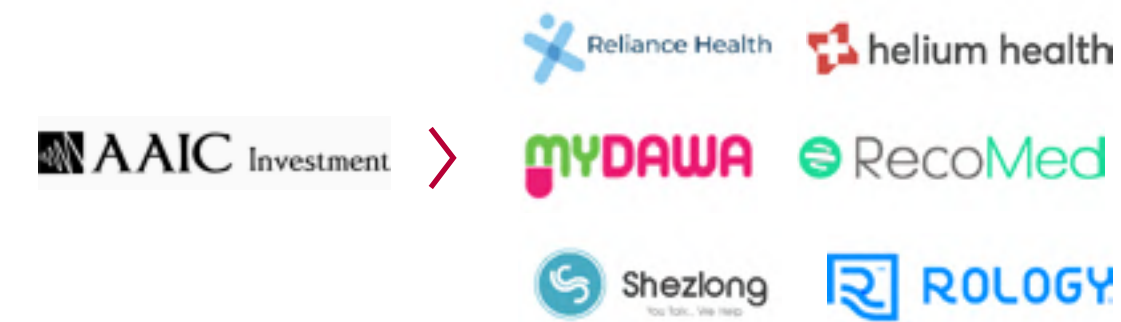
Orange MENA, AXA Assurance Maroc SA, and management of DabaDoc acquired a majority stake in the company in 2022. DabaDoc is a telehealth platform that is used by both private and public sector providers across the continent.



3elagi was acquired by Ibnsina Pharma in 2020. The acquisition will help the Ibnsina to further expand its business and strengthen its digital footprint utilizing the online pharmacy platform developed by 3elagi.

Given how early stage most companies in the healthtech space are across Africa, it is unsurprising that strategic acquisitions are only just starting to occur. To date this has been the only exit path in the industry.

Notable investors and transactions



AAIC is among the most active investors in the healthtech space. They tend to invest in Series A and B rounds and have been active in other healthcare industries as well AAIC is among the most active investors in the healthtech space. They tend to invest in Series A and B rounds and have been active in other healthcare industries as well.



DFIs have not played a large role in the health tech space, largely because there have only been 7 rounds raised that are >\$10M. As companies continue to grow this will likely change as capital needs will be sizeable enough for DFIs to participate.



Google for Start-ups has been a major investor as of late in a number of early stage healthtech ventures. They are augmenting others active in the space like Y-Combinator.

Challenges will be idiosyncratic across the healthtech landscape, but most headwinds are related to the relative nascency of the industry in Africa

CHALLENGE

BARRIER



Need for standardization of records and interoperability

Health systems have numerous stakeholders (doctors, pharmacists, paramedics, patients, administrators, financiers). Everyone speaks a different language, making standardization a necessity. Several e-health systems involving governments, NGOs, private investors and software companies operate in the absence of coordination between these different stakeholders, making these systems redundant and ineffective.



Lack of regulatory clarity

As there is no clear regulatory framework in digital health policy in many countries across the continent, and given the sensitive nature of patient data, it is vital to strike the right balance between protecting patient data to comply with local laws and making health professionals' data available for optimal patient care. Many companies are falling back on EU GDPR compliance in the absence of clear local regulation, and in many cases, companies are having to work with regulators to craft reasonable and suitable regulation.



Lack of available working capital

Particularly with those companies that are financing various parts of their supply chain, the lack of affordable working capital can be a significant barrier to growth. Most firms operating in this space have poor access to debt which puts a critical strain on their working capital and forces them to finance this with equity capital. At the local financial institution level risk underwriting capabilities remain limited when assessing the healthcare sector, and hedging costs can make international loans unaffordable as most of these companies are paid in local currency.

PROSPER AFRICA

Industry Spotlights

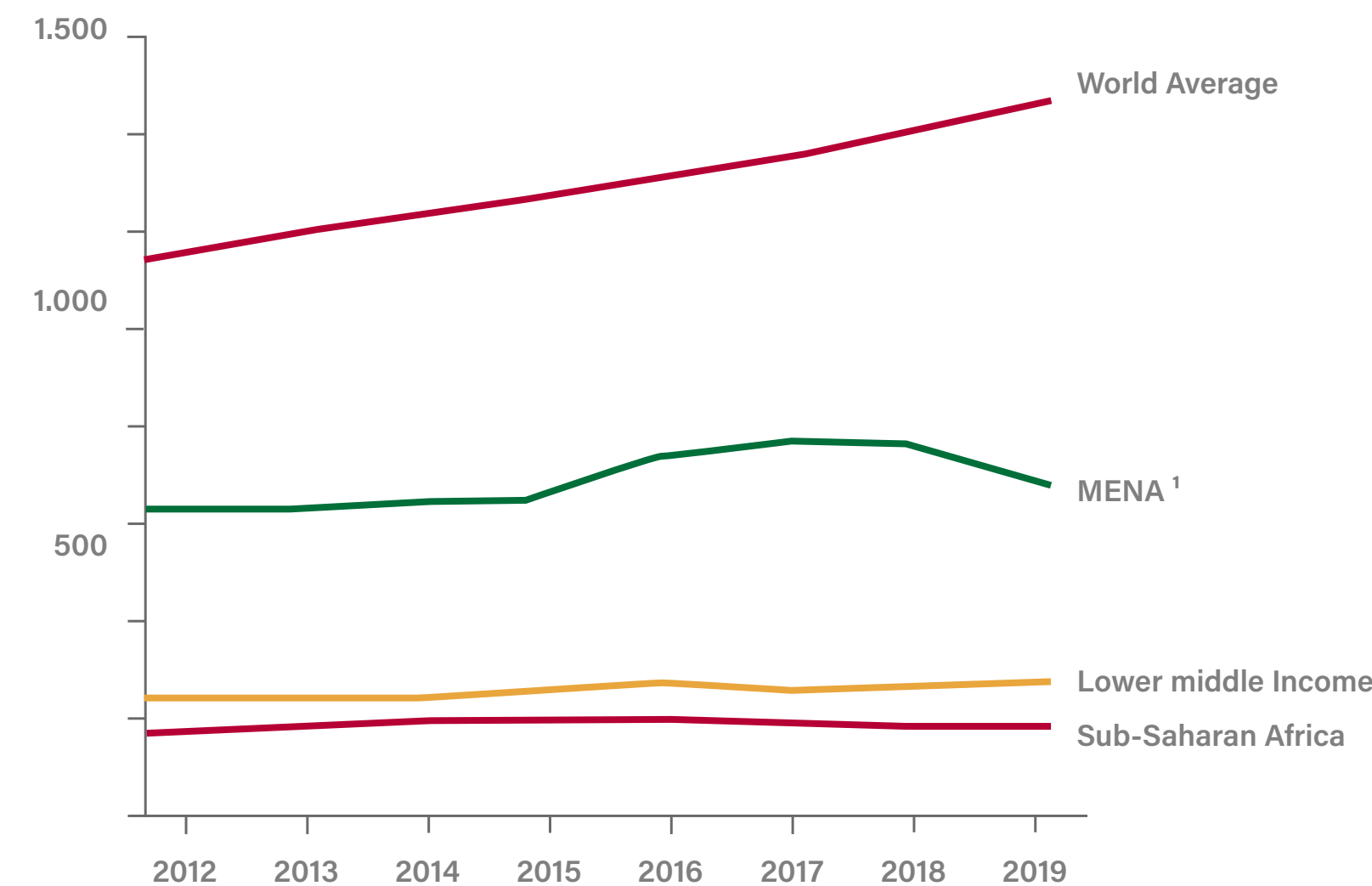
Pharmaceuticals

HealthTech

» Diagnostics Provision

Healthcare spending across Africa remains below even LMIC averages – improvements in diagnostic provision are critical to ensuring that resources are used effectively

Healthcare Spending per Capita (\$PPP Basis)



Improving access to diagnostics – including new digital diagnostics – would have a catalytic effect across the African healthcare ecosystem, including in the provision of care.

- » Healthcare spending across SSA remains below LMIC average, with MENA trailing world averages as well. Both regions also trail averages in terms of healthcare expenditure as a % of GDP.
- » Contrasting this – in most developed countries with highly resourced health systems, most of the population have easy access to health care services, often through multiple care pathways. A wide range of diagnostic tests can be accessed through most healthcare providers. Strong infrastructure allows rapid transport, testing, and feedback of results, and diagnostic information can be shared between providers and patients with relative ease.
- » In contrast, access to healthcare facilities and skilled healthcare workers in Africa is more heterogeneous and often limited, sometimes involving long journeys or incurring high costs to patients and their families. In rural and remote areas, the only accessible healthcare may be delivered by less skilled community healthcare workers, equipped with a limited range of point-of-care diagnostic tests. Healthcare facilities with high-quality laboratories do exist, but their capacity and the infrastructure to transport samples from distant facilities to these laboratories and return results in a timely fashion is often insufficient for the needs of the population, and results in further gaps in their linkage to appropriate and timely patient care.
- » Given the lower resource environment across most of Africa, it becomes even more critically important that diagnostics are readily available to optimize management of patients to reduce inefficiencies and get patients the right treatment sooner. Additionally, improved diagnostic capacity is critical to epidemiological surveillance and health policy creation.

Source: World Bank, The potential of digital molecular diagnostics for infectious diseases in sub-Saharan Africa – PLOS
 1 – Excluding high income countries

Investors can be catalytic to the wider healthcare ecosystem by investing in diagnostic provision, enabling better care and better therapy development

Snapshot of Diagnostic services in Africa

- » Diagnostic services encompass any basic lab tests that can be used to diagnose potential disease or trauma in order to guide treatment (e.g., blood tests, x-rays, etc.) and can also be used in the management of disease.
- » There are two main categories of diagnostics: laboratory services (e.g., hematology, clinical microbiology) and imaging services (e.g., x-ray, ultrasound, MRI).
- » In Africa, three main categories of players offer diagnostic services: **self-owned labs, chains, and hospitals.**
- » Currently, much of testing is conducted through the public sector and is focused on communicable disease (e.g., HIV) and is paid for by donors, **while the private sector serves a smaller share of the population but own most of the market value** (e.g., ~25% of the population served in Kenya is served through the private sector, but that accounts for ~80% of the total market value).
- » One key market failure is **that much of the more complex diagnostics (e.g., oncology) are usually shipped to Europe for processing, adding cost and clinical delays.**
- » The market for diagnostic services is specifically attractive due to high gross margins, growing demand, and low capex requirements – **gross margins in laboratory services can be >60%.**

There are multiple touch points within the diagnostic provision ecosystem for investors to explore

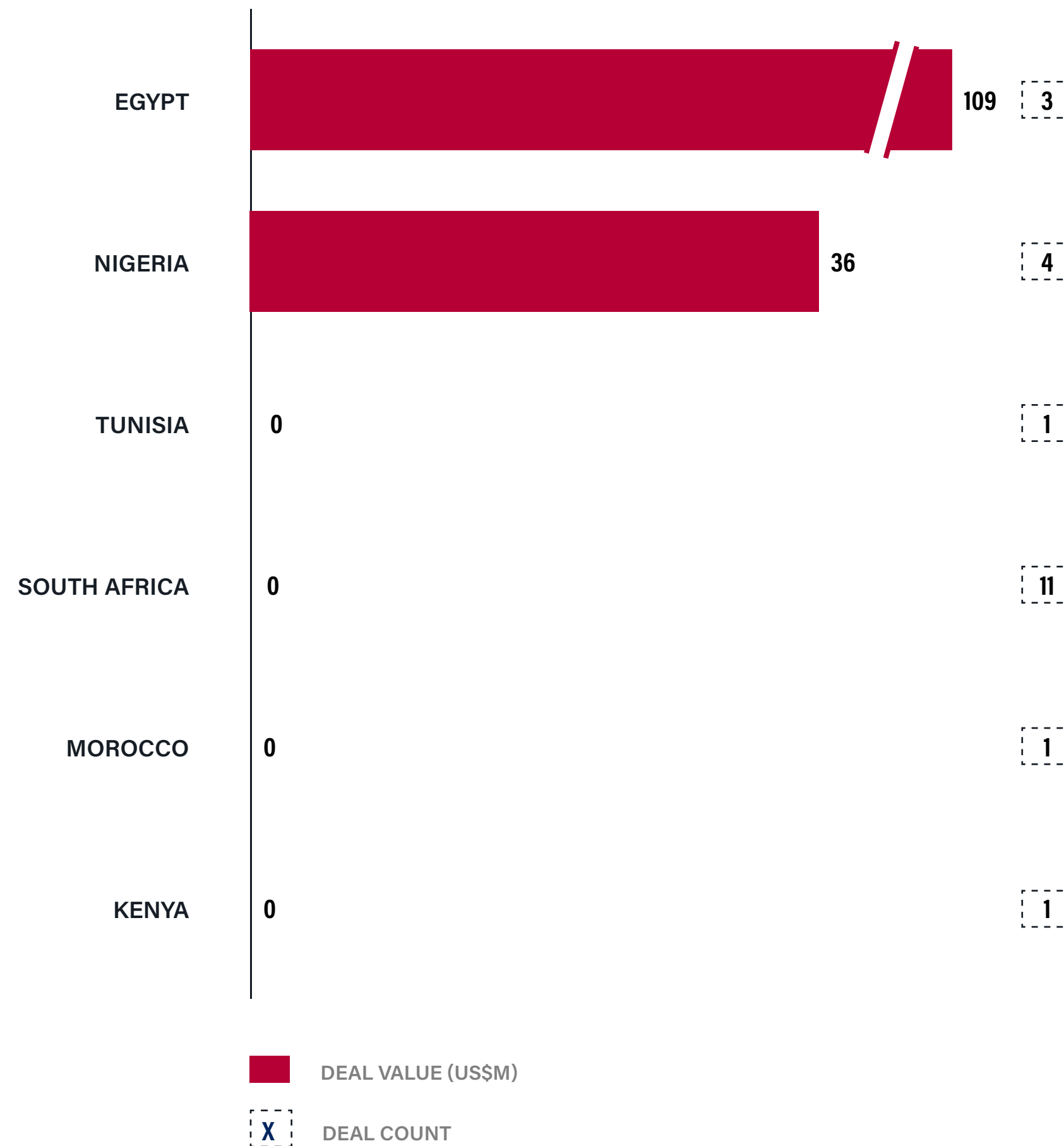
- 1 Chains or companies that service public and private health facilities with diagnostic capacity
 

- 2 Ecosystem players that are providing financing to increase the availability of diagnostic equipment capacity to existing health facilities
 
- 3 Innovative firms that are developing the next generation of digital diagnostics for use on the continent
 

DIAGNOSTICS PROVISION

Investments in diagnostics provision have focused on larger markets, but many markets have seen little to no activity

Egypt attracted the most diagnostic provision capital while South Africa had the highest number of transactions¹



» South African transactions have been dominated by M&A activity that is undisclosed in terms of size, which masks the total activity (as shown by number of deals).



» Egypt's largest transaction was a Buy Out of MetaMed that was anchored by Mediterrania Capital partners with participation from Proparco, DEG, EBRD, and FMO.



» Nigeria's most recent transactions were the privatization of Union Diagnostic, and Synlab Nigeria.

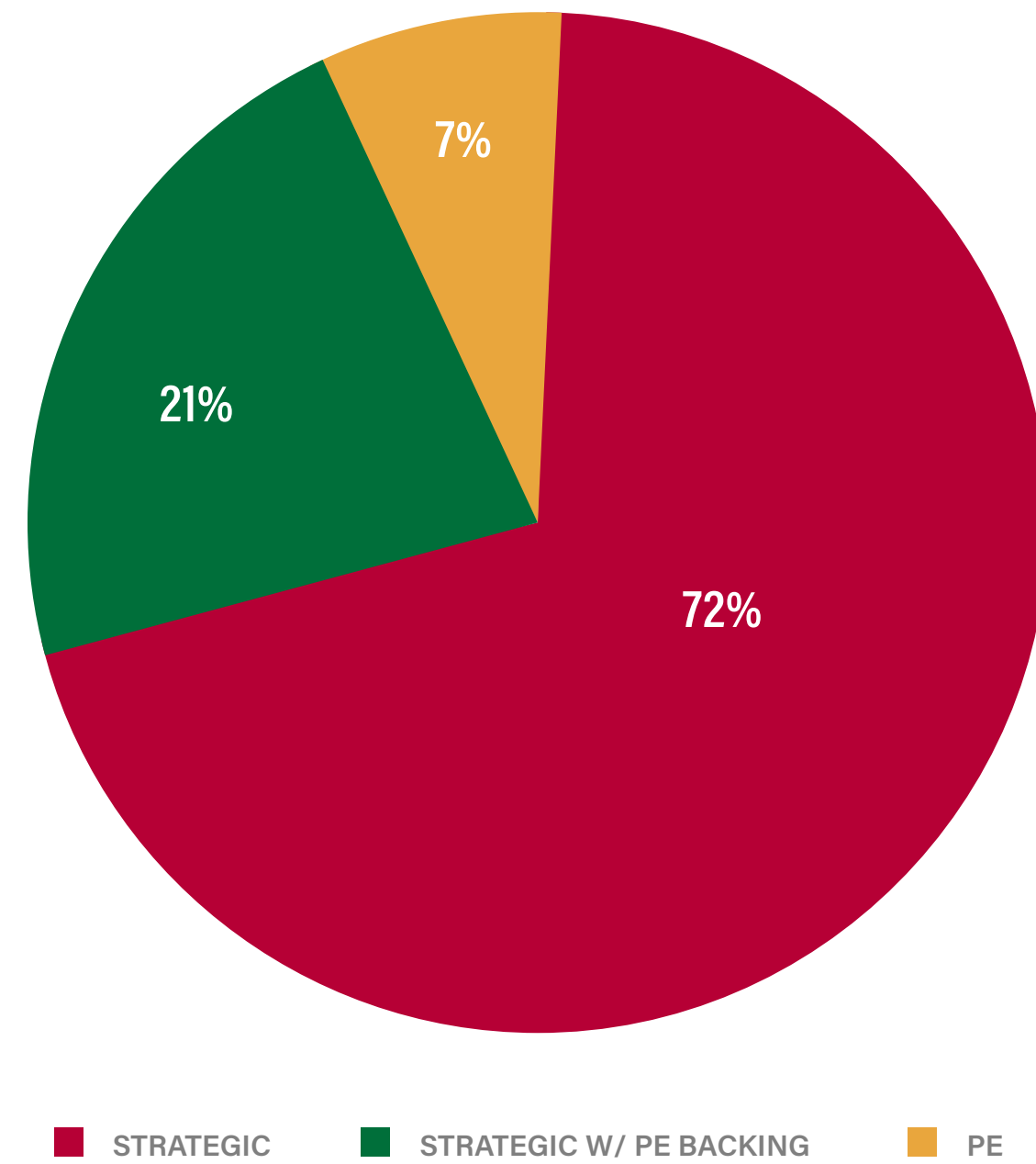


» The EIB and Gates Foundation came together in late 2020 to develop the African Health Diagnostic Platform (AHDP), which aims to improve access and quality of lab and diagnostic services in low income countries across SSA. AHDP can target private or public sector, depending on the country of implementation. They intend to deploy approx. EUR150M.

Source: CapIQ, Pitchbook
 1 - Based on disclosed transaction values

Exits in diagnostics provision were mostly strategic investors; with MCP and IFC the most active investors in the industry

Exit pathways in Diagnostics Provision¹



Dominated by South African strategic acquisitions (with some in Egypt and Nigeria as well) there is a path to strategic acquisition exits in diagnostic provision.

Notable investors and transactions



Mediterrania Capital Partners have lead two investments into diagnostic providers in the past 5 years – MetaMed and CairoScan in Egypt. Leading transactions that brought in a number of DFIs including FMO, Proparco, and DEG.



IFC participated in the strategic acquisition of EchoLab by Integrated Diagnostics Holdings, alongside Man Capital through a \$25M LBO on December 1, 2017.



The company was acquired by QIMA, via its financial sponsor Caisse de dépôt et placement du Québec, through an LBO on July 28, 2022 for an undisclosed amount.



The company was acquired by SYNLAB International, via its financial sponsors Cinven, Idinvest Partners, Novo Holdings, Ontario Teachers' Pension Plan and Sole Realisation Company, through an LBO on November 22, 2017 for an undisclosed sum.

¹ – Exit data since 2012 to date

Challenges in diagnostic provision are similar to those in care provision - talent shortages, lack of patient volumes, and regulatory arbitrage

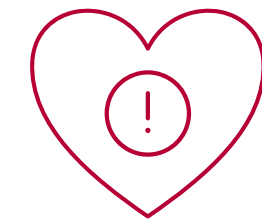
CHALLENGE

BARRIER



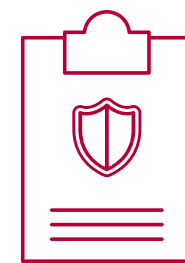
Talent and equipment shortages

As with the provision of care more broadly, a majority of countries have limited skilled personnel. This is especially the case when it comes to pathologists and radiologists. Additionally, many facilities do face shortages of high-tech equipment needed in labs to provide more complex diagnostics.



Access to healthcare and costs of care provision

Due to limited national health insurance coverage in most countries, and nascent private insurance coverage, the healthcare market in many countries is smaller than it otherwise could be if these risk sharing mechanisms were more established. This limits the up-take of diagnostics and can be a challenge to scale. Scale is a major challenge for diagnostics providers as volumes are a key driver of margins due to in many cases high fixed costs. Additionally, the accessibility of inputs to tests (reagents and consumables) can be challenging in many markets driving costs up.



Regulation and public sector competition

In many countries across Africa there is limited enforcement of quality control for laboratory tests. This creates a challenge for private sector providers that are offering high quality tests, as it introduces costs that many competitors do not fully bear. Additionally, for high-priority tests like HIV, the public sector may be the less expensive option given they can procure inputs at larger scale.



Limited target universe given relative nascency

Because of the relative nascency across the industry, and the fact that in many countries the public sector is the largest provider of diagnostics, there will be a limited opportunity set that will meet investors requirements in terms of size.

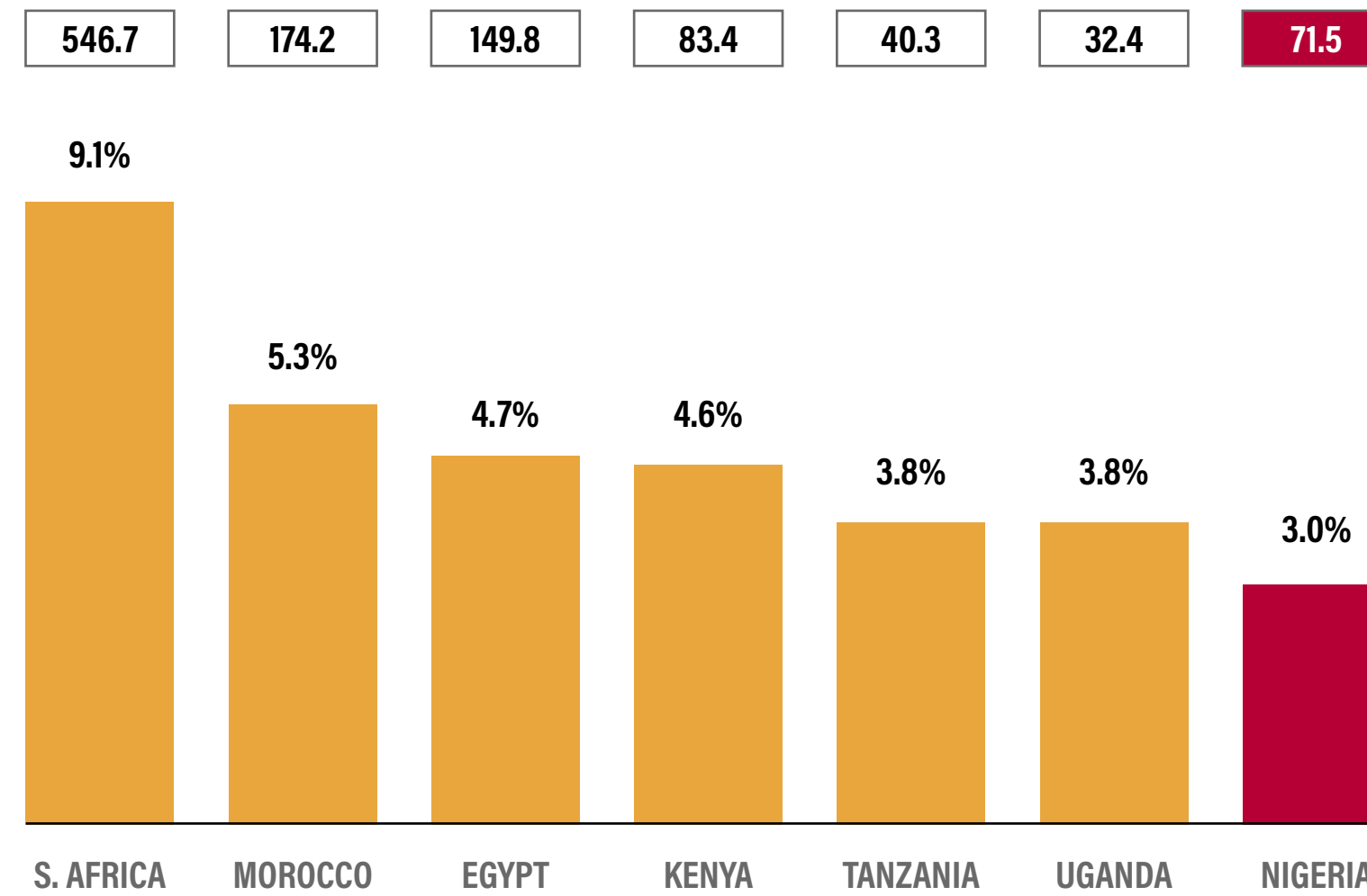
Countries of Focus

- » Nigeria
- Kenya
- South Africa
- Egypt
- Morocco

Nigeria has one of the highest healthcare spends per capita in Africa, and the market forecast to grow at a CAGR of 4% over the next four years¹

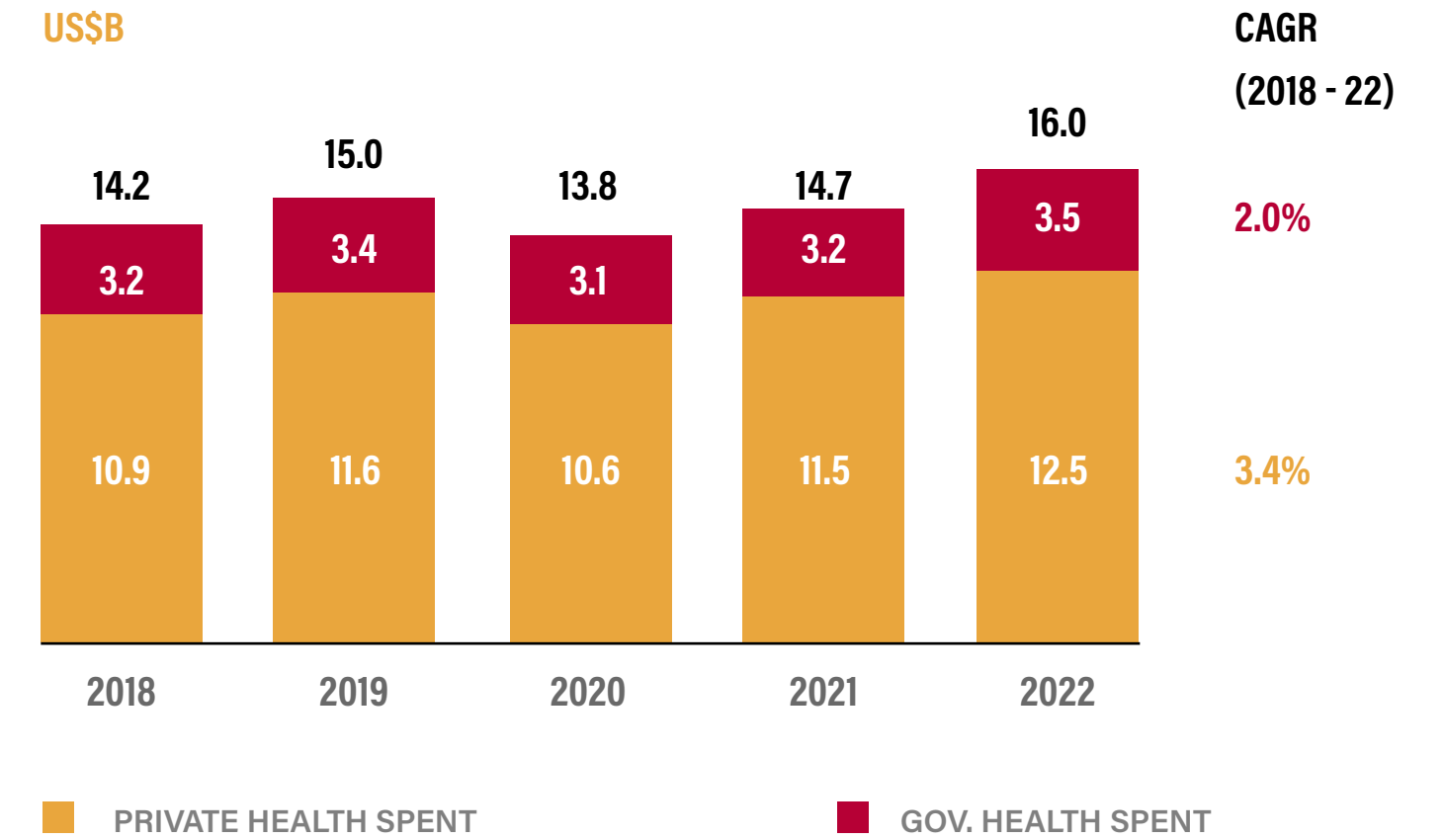
Healthcare Spend (vs. select African countries)

Healthcare Expenditure Per Capita and as % of GDP, 2019 (US\$)



High per capita health spend driven by increased demand for quality care as evidenced by the large outbound medical tourism market, estimated at US\$1 billion per annum. On average, about 9,000 Nigerians travel monthly to India, Europe and the U.S. seeking treatment, indicating a large gap in the local market for high quality

Nigeria Healthcare Spend



Nigeria's private and public health spend has grown significantly in the last five years driven by:

Growing middle class with ability to pay for healthcare: Nigeria's middle class grew by 600%, from 0.6 million to 4.1 million households, between 2000 and 2014. 7.6 million households are expected to enter the US\$5-14 daily income band by 2030 (average household is ~5 people)

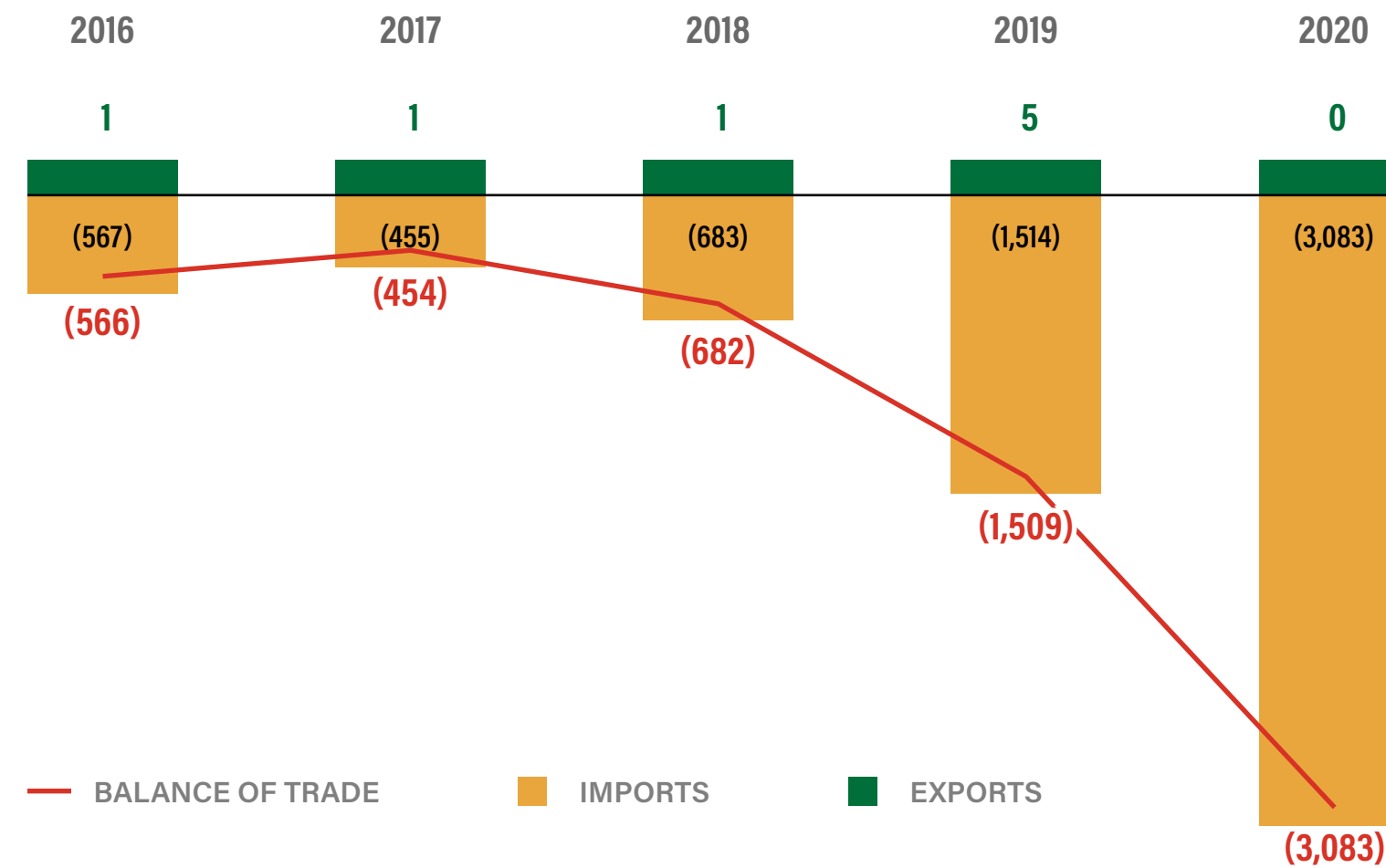
Increasing health insurance coverage: Projected increase in penetration of health insurance by private and public providers (currently <3% of Nigerians are covered by any insurance coverage), out-of-pocket spending represents 97% or more of private health spending

Source: World Bank, WHO, BMI Nigeria Healthcare Report 2018, McKinsey Urban World Projection (2015), Standard Bank (2014), Price Waterhouse Coopers Report (2016)
 1. 4% CAGR represents growth in USD

Nigeria has a significant balance of trade deficit in pharmaceuticals, but a growing local manufacturing industry supported by a strong regulator

Pharmaceutical Balance of Trade (US\$M)¹

HEALTHCARE EXPENDITURE PER CAPITA AND AS % OF GDP, 2019 (US\$)



Key pharmaceutical players

MNC Players



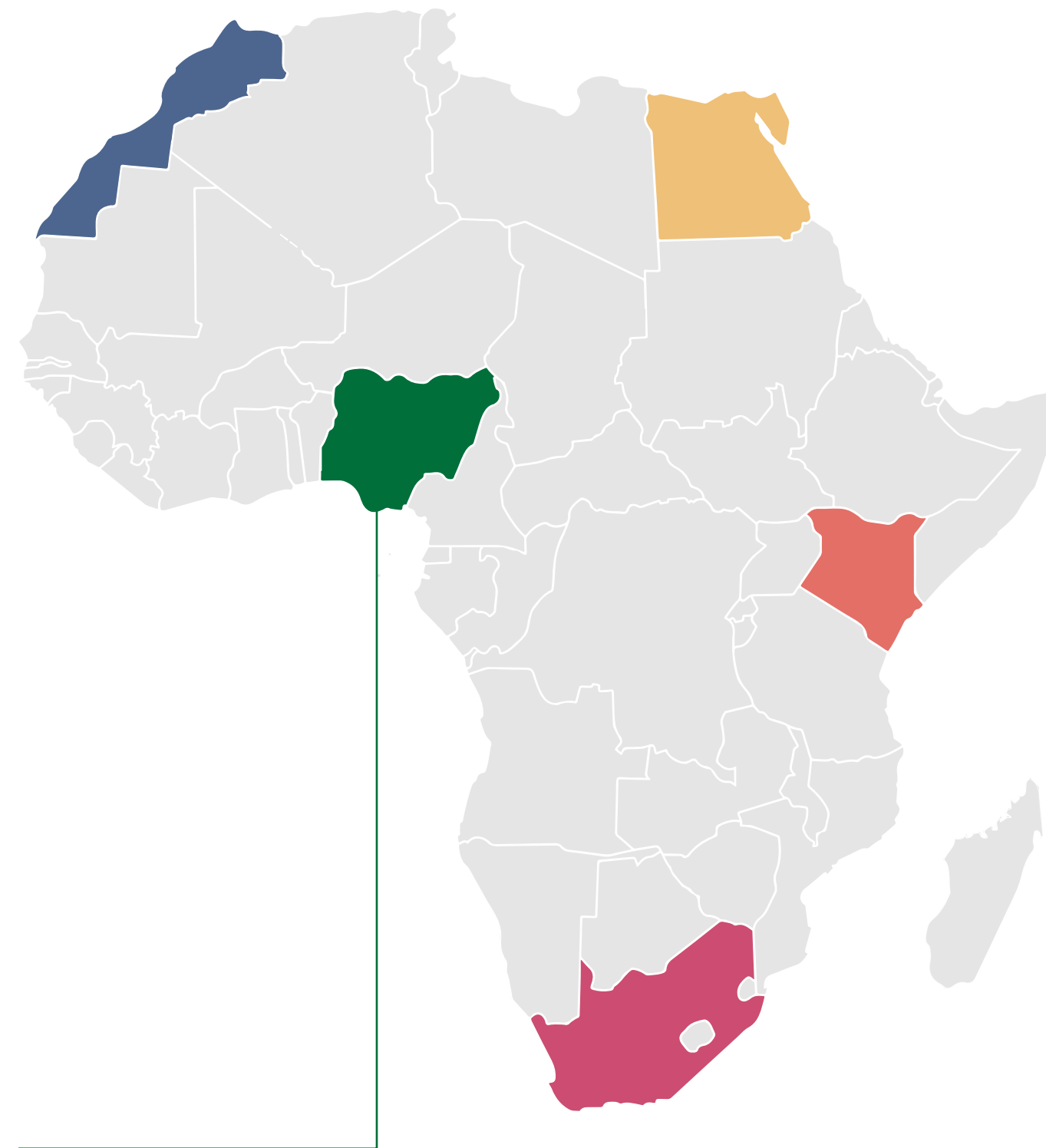
Local Players



- » Local production is unable to meet Nigeria’s large and growing population with most unmet demand being satisfied by imports from Asia. COVID-19 only exacerbated the over-reliance on imports with imported pharmaceuticals ballooning to US\$1.5B in 2019 creating a surplus of U\$1.5B in the pharmaceutical balance of trade
- » Nigeria exports most of its pharmaceuticals to Ghana (c. 38%) with other top destinations being the Netherlands (c. 22%), and France (c. 22%). Conversely, India (c. 32%) is the largest exporter to Nigeria, closely followed by Netherlands (c. 31%), and then China (c. 10%)
- » To reduce this huge dependency, the Nigerian government continues to make efforts towards localizing production, particularly for generic drugs, with the National Agency for Food and Drug Administration and Control (NAFDAC) striving to provide incentives to encourage local pharmaceutical companies to manufacture quality generic drugs
- » In 2022, **NAFDAC attained WHO’s maturity level 3 for medicines and imported vaccines**, becoming globally recognized as a well-functioning body and earning a place on the WHO Listed Authorities list alongside the world’s top regulators of reference

Source: UN Comtrade
1. Segmented according to Standard International Trade Classification

Investments in Nigeria have focused on technology as investors have been attracted to the scale opportunity in the local market

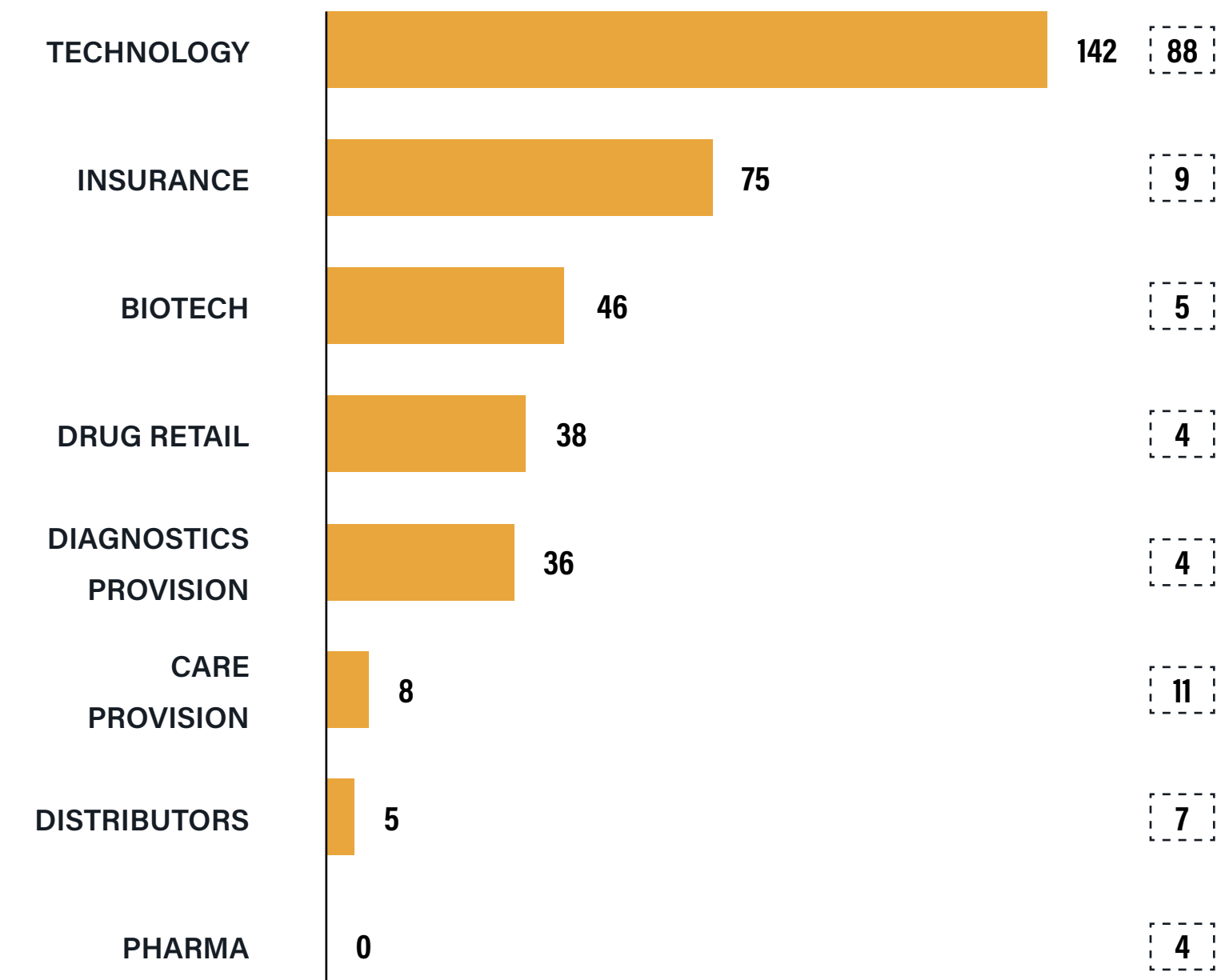


NIGERIA US\$351M (8% of volume)

Key sectors:

- Information Technology (41%)
- Insurance (21%)
- Biotech (13%)

Industry Breakdown by Deal Value (US\$M) and Volume¹



DEAL VALUE (US\$M)
DEAL COUNT

Source: Pitchbook, CapIQ
1 - Excludes debt investment, grants and volumes only include disclosed amounts.

Nigeria has been a major target country for VC investments, as the large and underserved population offer a tremendous growth opportunity at scale



<p>INVESTOR DESCRIPTION</p>	<p>Chrysalis is a VC company based in Nigeria that focuses on early-stage tech companies in Africa. The firm seeks to invest in building tech solutions for agriculture, renewable energy, security, health, education, and fintech sectors.</p>	<p>Founded in 2014, Novastar Ventures is a venture capital firm and is based in London, with offices in Lagos and Nairobi. The firm invests in business across East and West Africa.</p>	<p>Blue Haven Initiative is an innovative family office dedicated to putting wealth to work for competitive returns and positive social and environmental change.</p>
<p>INSTRUMENT AND TICKET SIZES</p>	<p>Chrysalis offers equity with a preferred investment amount between \$6M - \$10M.</p>	<p>Novastar offers equity with a median investment amount of \$6M.</p>	<p>Blue Haven Initiative offers equity, debt and grant funding with a preferred investment amount between \$0.5M - \$10M.</p>
<p>SELECTED HEALTH-CARE TRANSACTIONS IN NIGERIA</p>	<p>Helium Health: is a health-tech company designed to simplify the process of patient records and hospital management. Chrysalis invested an undisclosed amount in Helium Health's \$2M seed round in 2017 and \$10M Series A in 2020.</p>	<p>Elephant Healthcare: is a health-tech company that digitizes the patient's end-to-end client journey. In 2021, Novastar invested \$4.87M in Elephant's Series A.</p>	<p>Field Intelligence: The company raised \$3.6M of Series A venture funding in a deal led by Blue Haven Initiative on March 4, 2020. The funds are being used to scale up Shelf Life, the technology-enabled supply chain finance platform for pharmacies in Africa.</p>
<p>INSTRUMENT AND TICKET SIZES</p>	<p>Open to investing in early-stage tech-enabled healthcare opportunities in Nigeria.</p>	<p>Open to investing in early-stage tech-enabled healthcare opportunities in Nigeria, with a focus on ESG and impact investments.</p>	<p>Open to investing in early-stage VC healthcare opportunities, with an impact focus.</p>

In 2022, Nigeria closed \$77M¹ of deals in healthcare across 33 transactions including in technology and provision of care services

Snapshot of recent transactions:



Lifestores raised \$3M of venture funding in a deal led by Health54 and Aruwa Capital Management with other undisclosed investors also participating.



AfyaCare raised a \$130K seed round from CardinalStone Capital Advisors to grow their hospital brands and scale their HMO business.



Founded in 2017, Lifestores started as a pharmacy chain before pivoting to B2B services for pharmacies and digital services for patients. This round will be used to expand the company's pharmaceutical marketplace across Nigeria.



Operator of a healthcare asset investment company intended to make healthcare accessible and affordable. The company specializes in investing in assets across the healthcare value chain that includes low-mid and mid-high-end hospitals, health insurance, and health tech companies.

Source: CapIQ and Pitchbook
1. Includes only disclosed deal values

PROSPER AFRICA

Countries of Focus

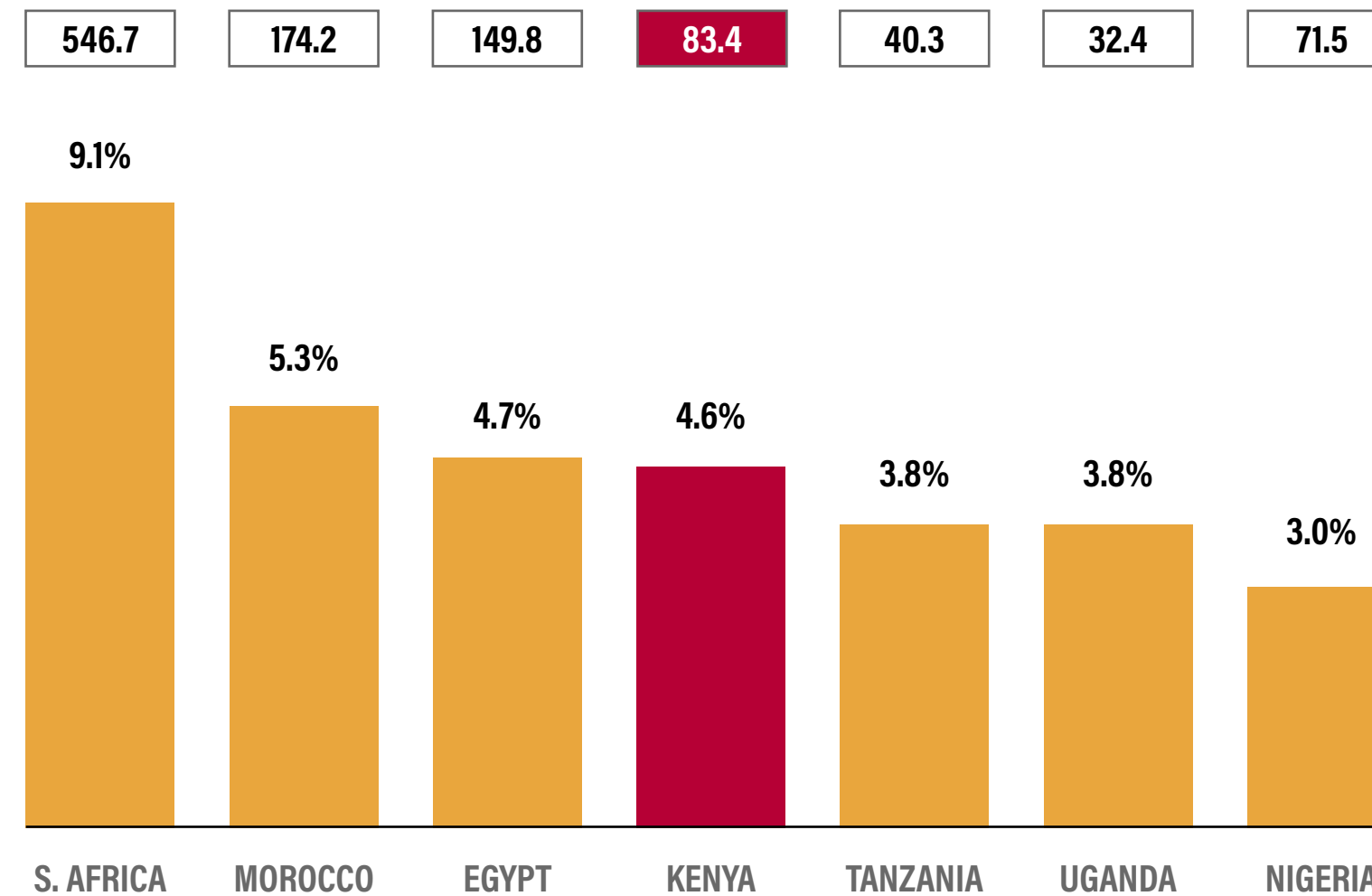
- Nigeria
- » Kenya
- South Africa
- Egypt
- Morocco



Kenya has one of the highest healthcare spends per capita in Africa but still lags global averages; insurance penetration will be a key unlock for growth

Healthcare Spend (vs. select African countries)

Healthcare Expenditure Per Capita and as % of GDP, 2019 (US\$)

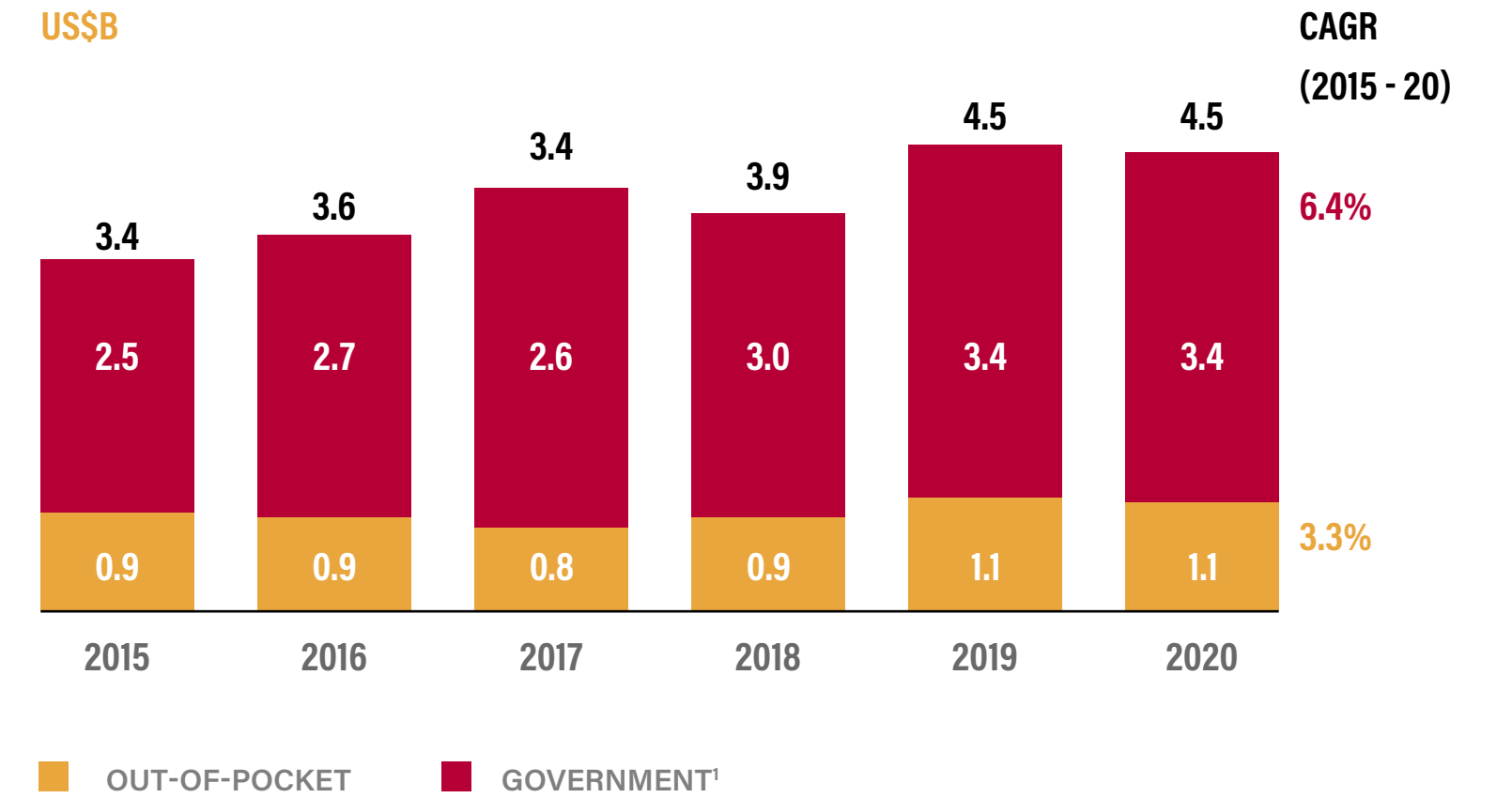


High per capita health spend is driven by increasing prevalence of chronic lifestyle diseases such as diabetes, hypertension, and cirrhosis. The high per capita health expenditure in Kenya may also be attributed to the health sector’s fragmented ecosystem, inefficient asset utilization, and the lack of health insurance for a large portion of the populace despite the establishment of the National Hospital Insurance Fund (NHIF)

Source: World Bank
 1. Government spending includes other expenditures such as external aid, voluntary health insurance contributions, and social health insurance contributions

Kenya Healthcare Spend

US\$B



Kenya’s private and public health spending has been variable in the past five years since 2015 while some key themes continue to play out:

Slow adoption of the national insurance plan:

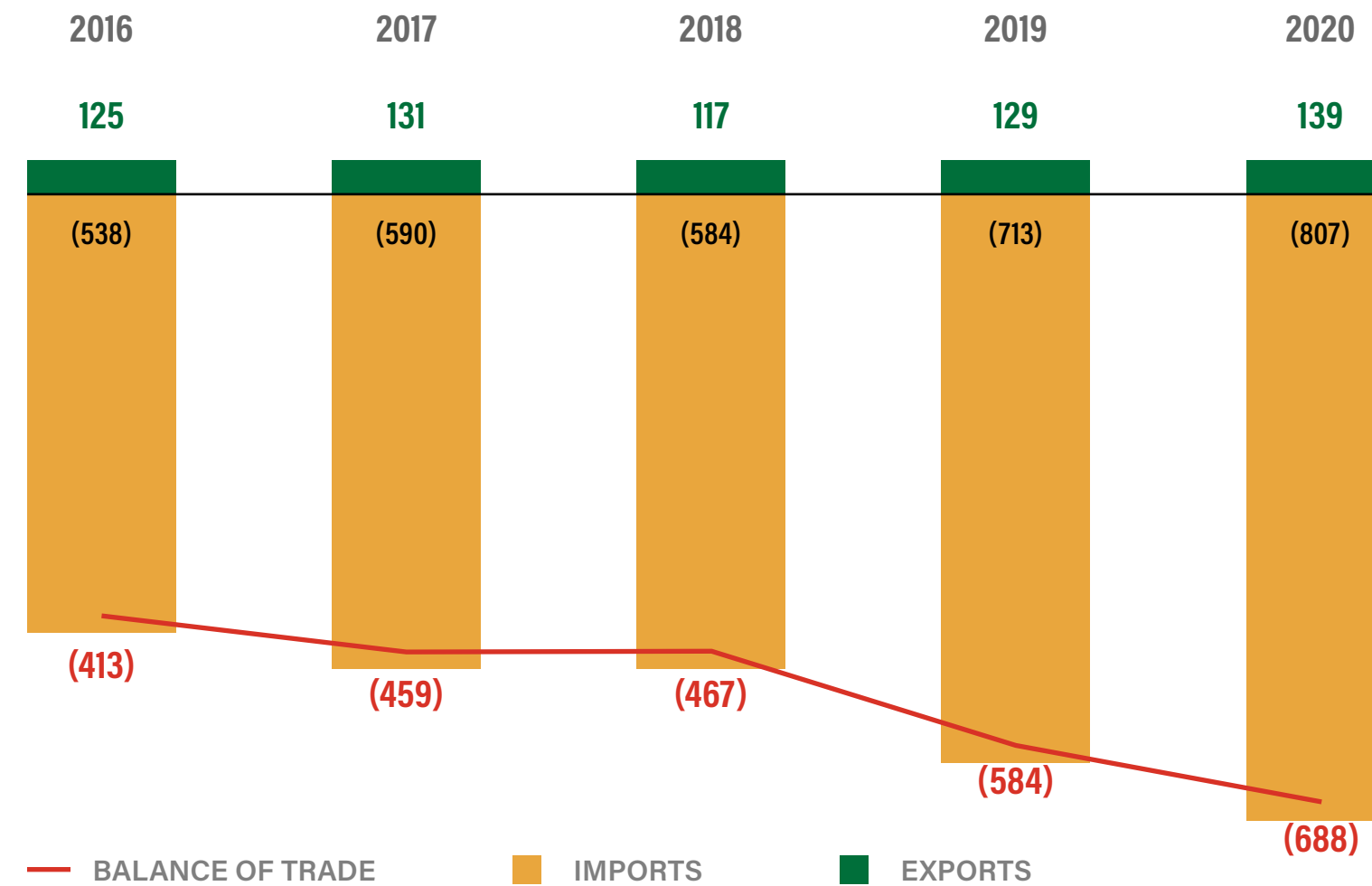
Since the introduction of the NHIF in 2004, the insurance plan has struggled to cater to the growing population and the growing health care needs of Kenyan citizens. In 2019, only 11% of Kenyans were covered under NHIF, leaving most of the population without the government-subsidized health plan. With over 70% of the Kenyan workforce working in the informal sector, most of them are either not eligible or cannot be able to afford the premiums set by the government

Exploration of smaller markets (frontier markets within frontier markets):

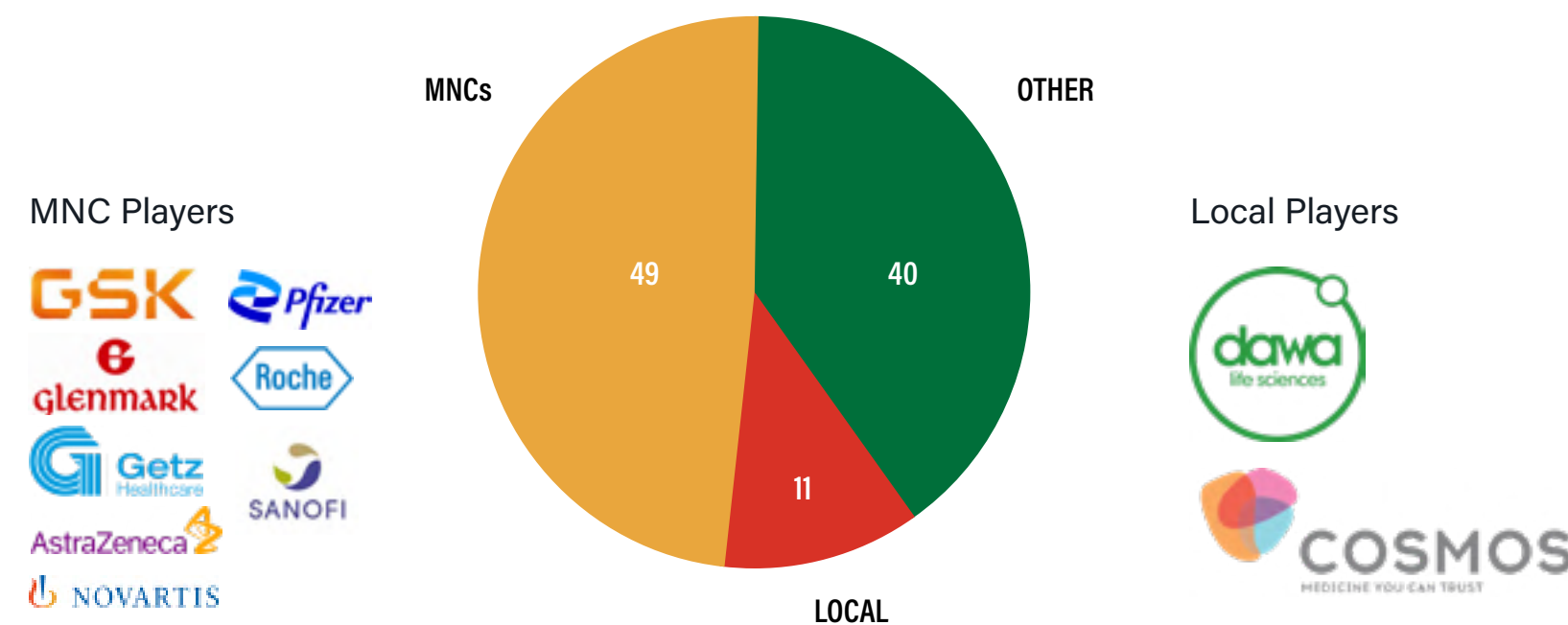
Private equity firms are increasingly investing extensively in hospitals, some of which are changing their attention from the traditional big cities to secondary cities - Ascent’s investment in Diani Beach Hospital is the latest example

Kenya's pharmaceutical market still mainly relies on imports with MNCs controlling almost half of the local market

Pharmaceutical Balance of Trade (US\$M)¹



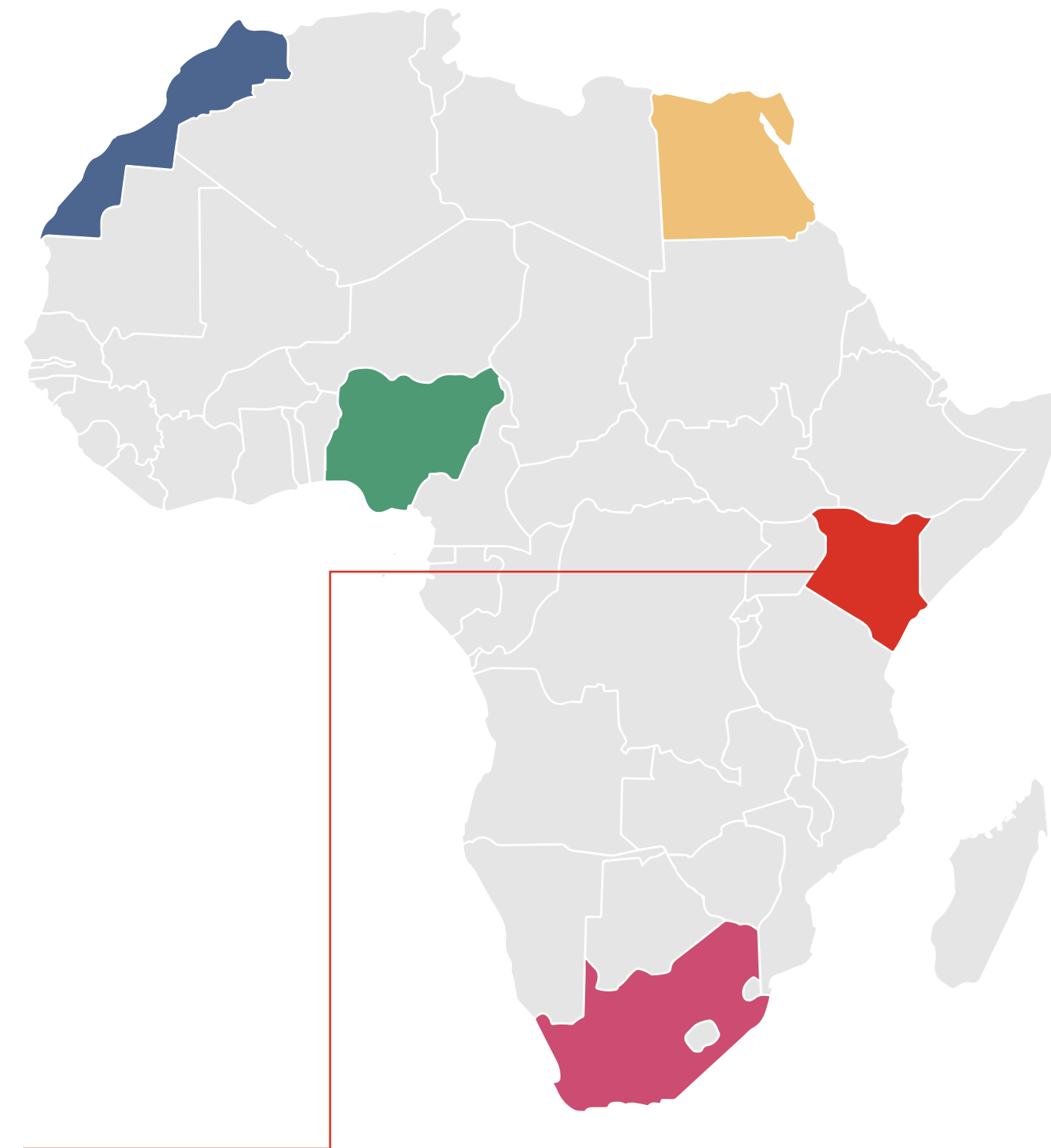
Top pharmaceutical players (2019)



- » Kenya's pharmaceutical market is mainly dominated by multinational corporations (MNCs) imports, although some have local manufacturing hubs. MNCs players include blue-chip manufactures such as Pfizer, Novartis, and GlaxoSmithKline
- » Local manufacturing by indigenous firms is limited to a few players like Cosmos, Dawa Life Sciences, Biodeal Kenya, and Generics Africa
- » Kenya exports most its pharmaceuticals to East Africa with the top destinations being Tanzania (c. 26%), Uganda (c. 19%), and Somalia (c. 11%). Conversely, Kenya imports most of its pharmaceuticals from India (c. 37%), US (c. 15%), and Germany (c. 10%)
- » The Kenyan government has established the Pharmacy and Poisons Board (PPB) as the drug control authority to regulate the import, manufacture, and distribution of pharmaceuticals and implemented the Essential Drugs List (EDL) to ensure the availability of quality and affordable drugs in the public sector, ensuring safe and quality drugs for the population. PPB oversees drug registration, pharmacy licensing, medical professionals registration, and is also responsible for drug price monitoring. **PPB is yet to reach a WHO maturity level to be internationally recognized as a stringent regulatory body.**

Source: UN Comtrade; IFC Kenya Pharmaceutical Industry Report (2020)
 1. Segmented according to Standard International Trade Classification

Investments in Kenya have focused on care provision as investors have been attracted to the scale opportunity in the local market

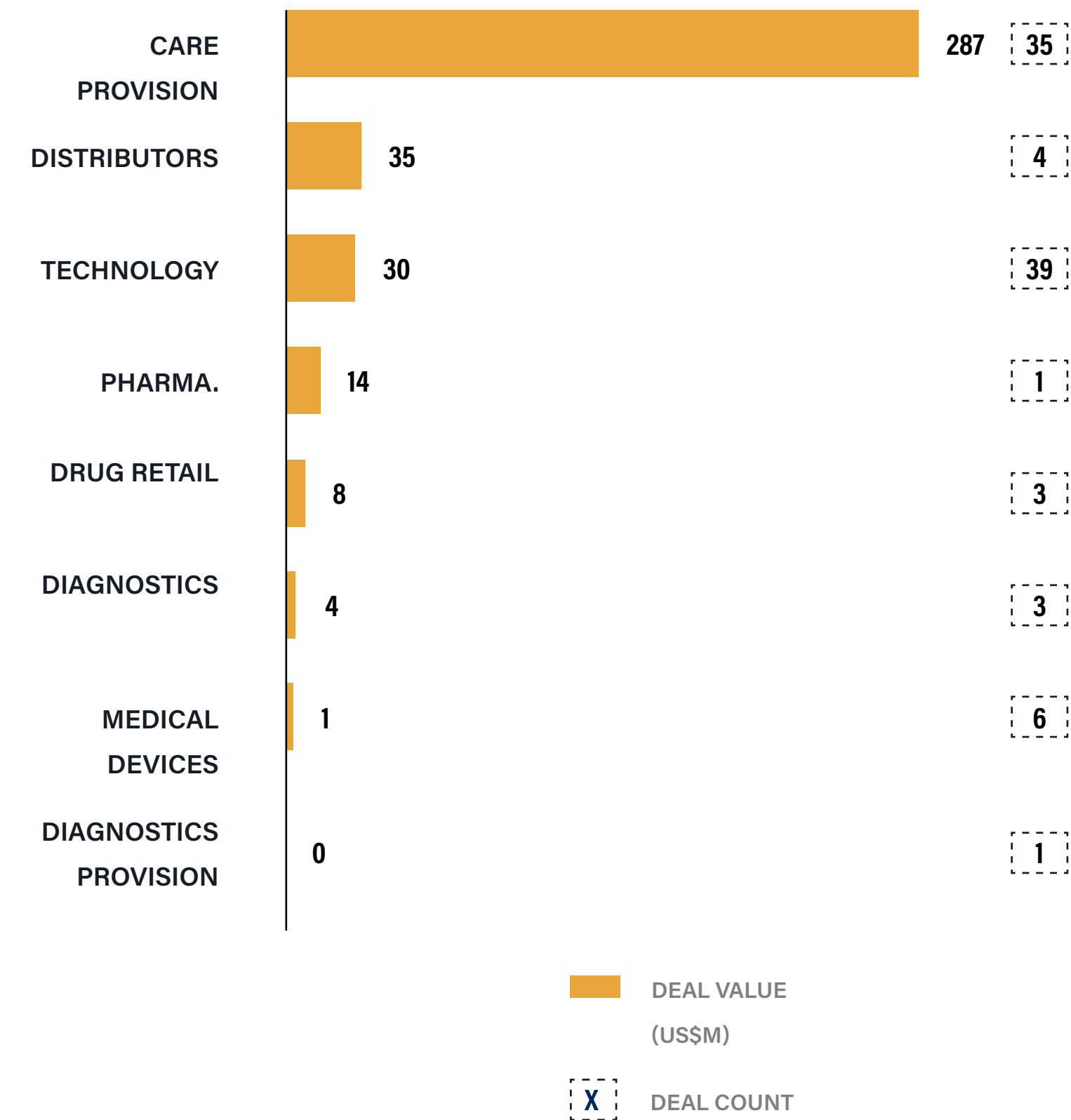


KENYA US\$379M (9% of volume)

Key sectors:

- » Care provision and facilities (76%)
- » Distributors (9%)
- » Information Technology (8%)

Industry Breakdown by Deal Value (US\$M) and Volume ¹



Source: Pitchbook, CapIQ
 1 - Excludes debt investment, grants and volumes only include disclosed amounts

Active investors in the healthcare sector in Kenya remain optimistic despite broader macro-economic challenges, with several investors targeting to set up healthcare platforms



	Swedfund	IFHA	Leapfrog Investments
INVESTOR DESCRIPTION	DFI based in Stockholm that specializes in complex, high-risk investment environments and invests directly in companies and indirectly through funds and financial institutions	Private equity funds dedicated to small and medium size investments in private healthcare companies in Africa with a focus on healthcare, services, supplies and health insurance sectors	Leapfrog Investments is a private equity firm that seeks to make impact investments in the financial services and healthcare sectors
INSTRUMENT AND TICKET SIZES	Swedfund offers equity, loans and expertise for investments with a preferred investment amount between \$2M - \$11M	IFHA's preferred deal types include venture capital, growth capital, and leveraged buyouts with a preferred investment amount between \$0.5M - \$8.5M	The firm seeks to make majority and minority investments through buyouts, management buyouts, and growth equity with a preferred investment amount between \$10M - \$50M
SELECTED HEALTH-CARE TRANSACTIONS IN KENYA	<p>Nairobi Women's Hospital: Swedfund sold its 19% stake in Nairobi Women's Hospital to the Abraaj Group on May 9, 2017 for an undisclosed sum</p> <p>AAR Health Care: 54% of the company was acquired by IFC and Swedfund through a KES 1.5 billion LBO on February 5, 2020</p>	<p>Chiromo Lane Medical Centre: The company received an undisclosed amount of development capital from IFHA in December 2018</p> <p>AAR Health Care: The company received KES 750 million of development capital from IFHA on November 25, 2010</p>	<p>Goodlife Pharmacy: Leapfrog acquired the company in 2016 alongside PG impact investments and Ascension Investment Management. Goodlife also received approximately \$3M of development capital from Leapfrog on November 7, 2019.</p> <p>Resolution Insurance: The company was acquired by Leapfrog and its management through c. US\$19M LBO in 2015.</p>
PIPELINE CRITERIA	Currently pursuing health care opportunities in Kenya and are open to engage in further conversations	Open to investing in health care opportunities in Kenya with the following criteria: <ul style="list-style-type: none"> » EBITDA positive » Significant majority stake with a competitive valuation » Plug and play assets with viable exits 	Open to investing in health care opportunities in Kenya with the following criteria: <ul style="list-style-type: none"> » Asset light, high ROCE units that can scale fast, leveraging technology effectively » Reach emerging consumers with a quality, affordable product/service

In 2022, Kenya closed \$18M¹ of deals in healthcare across 18 transactions including in technology and provision of care services

Snapshot of recent transactions:



Diani Beach Hospital was acquired by Ascent Capital Africa and Proparco through an LBO for an undisclosed amount



E-tiba raised US\$0.2M from TechBridge Invest, an early-stage incubator, accelerator and investor intended to serve the software technology sector

DIANI BEACH HOSPITAL

Diani Beach Hospital, a leading healthcare provider on Kenya’s South Coast will use the investment to continue the company’s growth, thus improving healthcare provision for hundreds of thousands of Kenyans living in an underserved part of the country

E-tiba

Operator of a digital medical platform designed to connect patients to caregivers via USSD code and android mobile application. The company’s platform offers to build an integrated health system that links patients and caregivers at an affordable rate

Source: CapIQ and Pitchbook
1. Includes only disclosed deal values

PROSPER AFRICA

Countries of Focus

Nigeria

Kenya

» South Africa

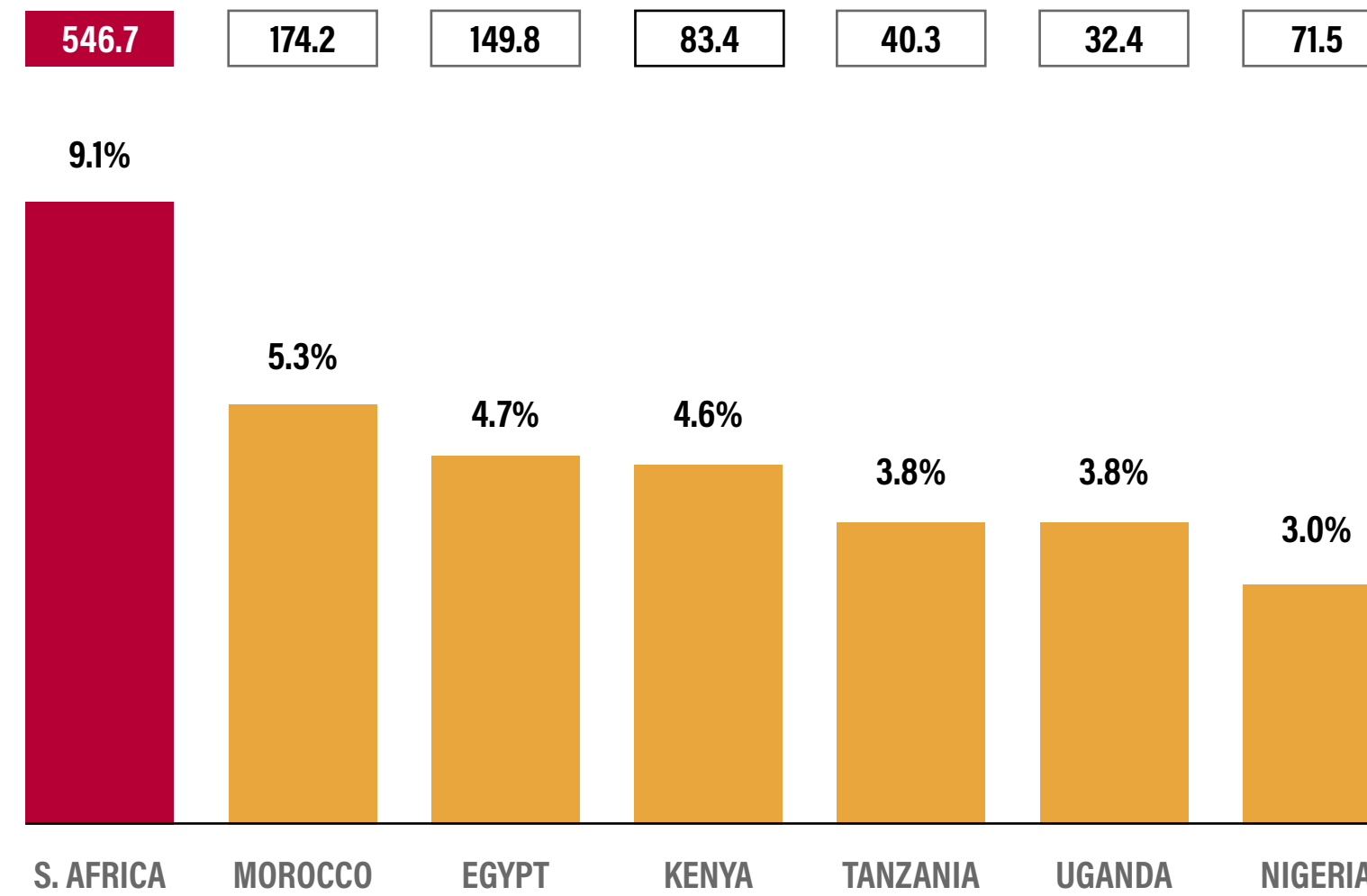
Egypt

Morocco

South Africa is the biggest healthcare spender in Africa; but health outcomes are not proportional to overall spend

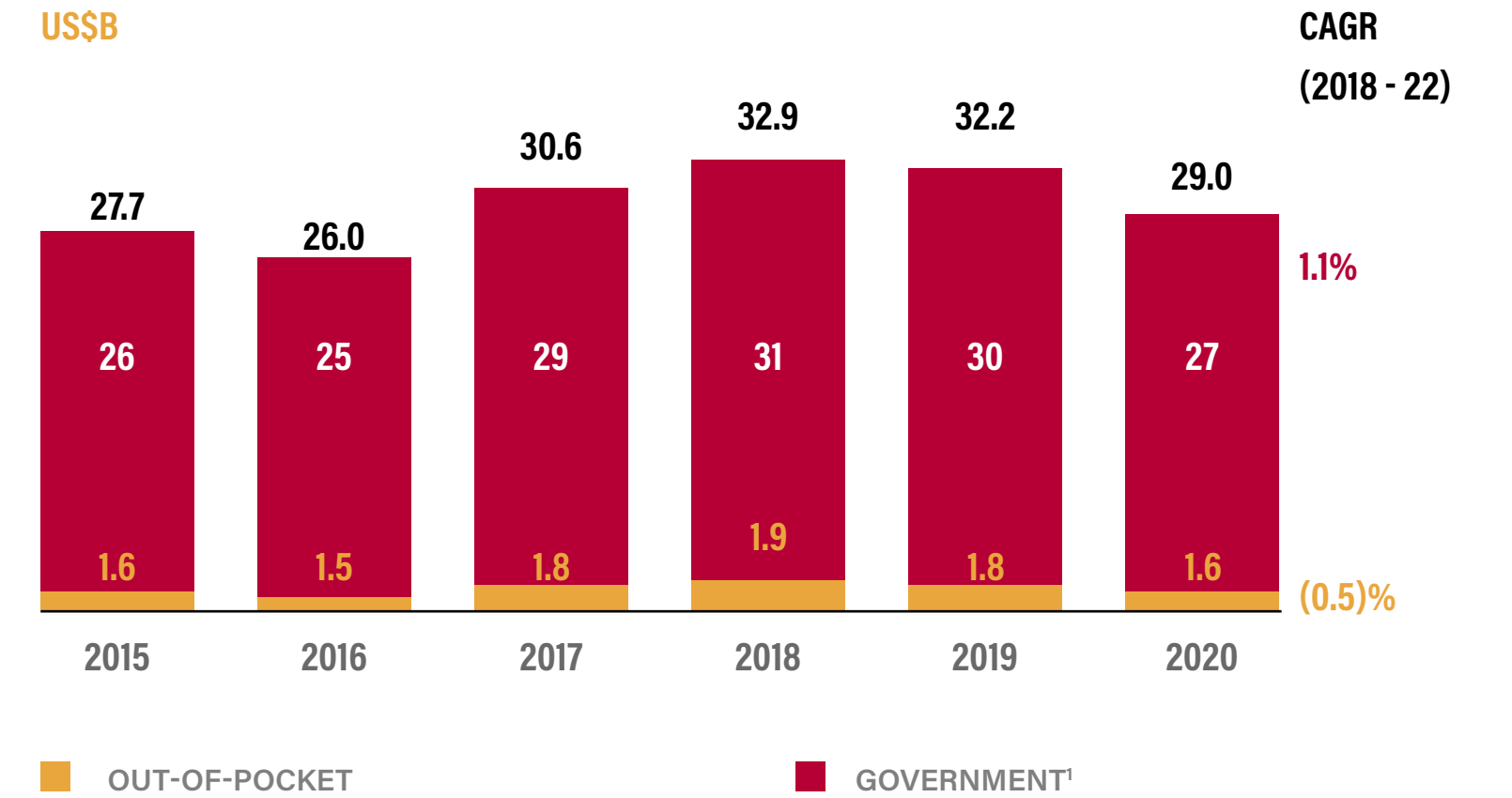
Healthcare Spend (vs. select African countries)

Healthcare Expenditure Per Capita and as % of GDP, 2019 (US\$)



South Africa's largest killer remains the HIV/AIDS epidemic with a significant amount of healthcare spending going towards antiretroviral therapeutics. However, chronic lifestyle diseases are growing with nearly 100 South Africans now dying of heart attacks or strokes each day. More than 7 million adults smoke, around 6.3 million suffer from hypertension, and 5 million have high cholesterol.

South Africa Healthcare Spend



South Africa's healthcare spending is significant, but healthcare equity and quality remain key issues:

Universal coverage will attempt to improve healthcare access to low-income groups:

The South African health system is currently engaged in the complex project of establishing universal health coverage that ensures the system's ability to deliver comprehensive care that is accessible, affordable, and of good quality. The Government expects the National Health Insurance (NHI) to fund over 90% of all healthcare in the public and private sectors. Started in 2014, the NHI is being implemented in phases over a 14-year period.

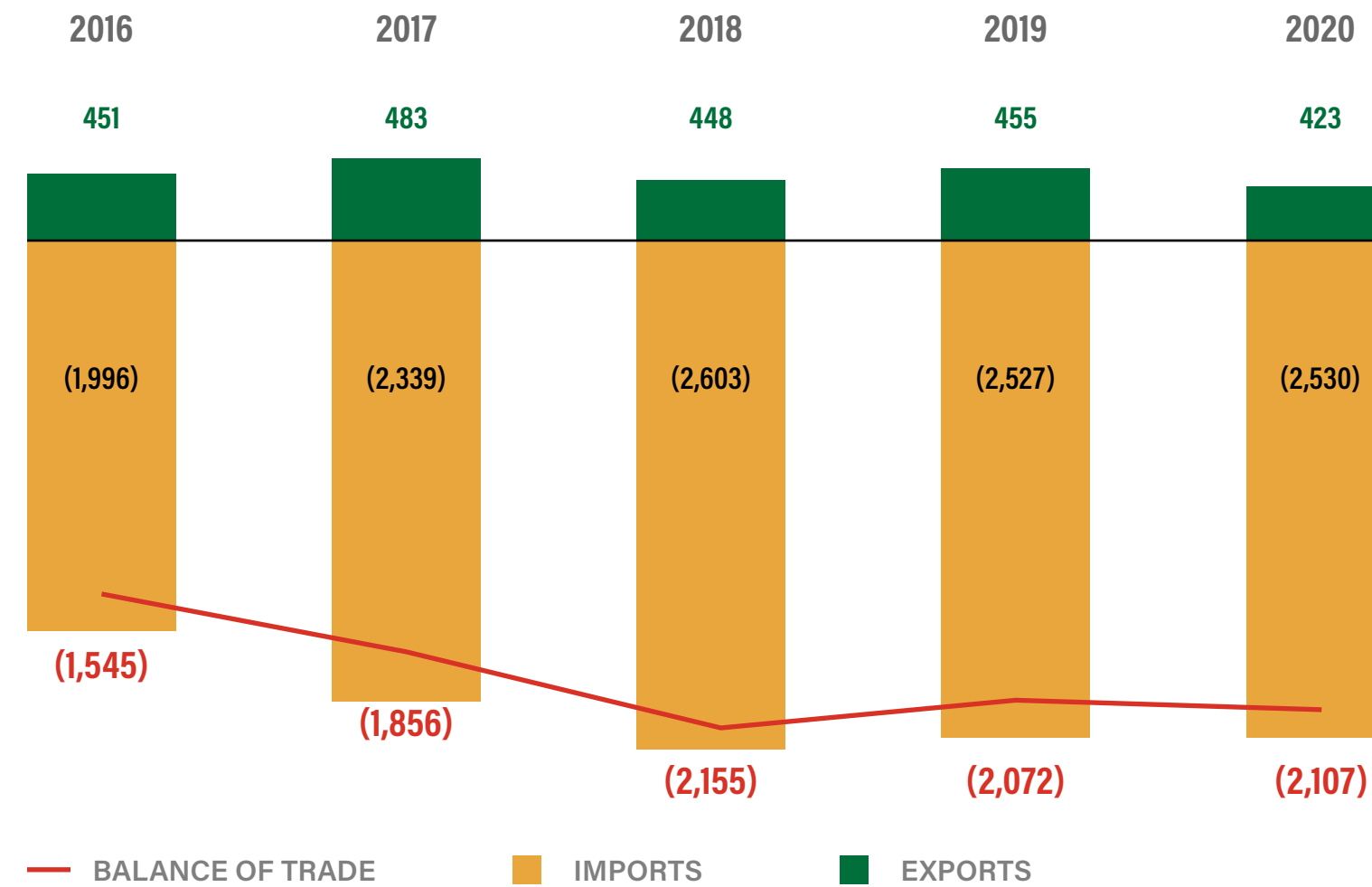
Quality and equitable access remains a challenge:

Despite NHI's introduction in 2014, many South African still solely rely on government infrastructures to access care, which is often poor and inaccessible to many, particularly to those who live in rural pockets of the country.

Source: World Bank, WHO, BMI Nigeria Healthcare Report 2018, McKinsey Urban World Projection (2015), Standard Bank (2014), Price Waterhouse Coopers Report (2016)
 1. Government spending includes other expenditures such as external aid, voluntary health insurance contributions, and social health insurance contributions

South African pharmaceutical exports remain constrained as producers continue to meet growing local demands with limited capacity for exports

Pharmaceutical Balance of Trade (US\$M)¹



Top pharmaceutical players

MNC Players



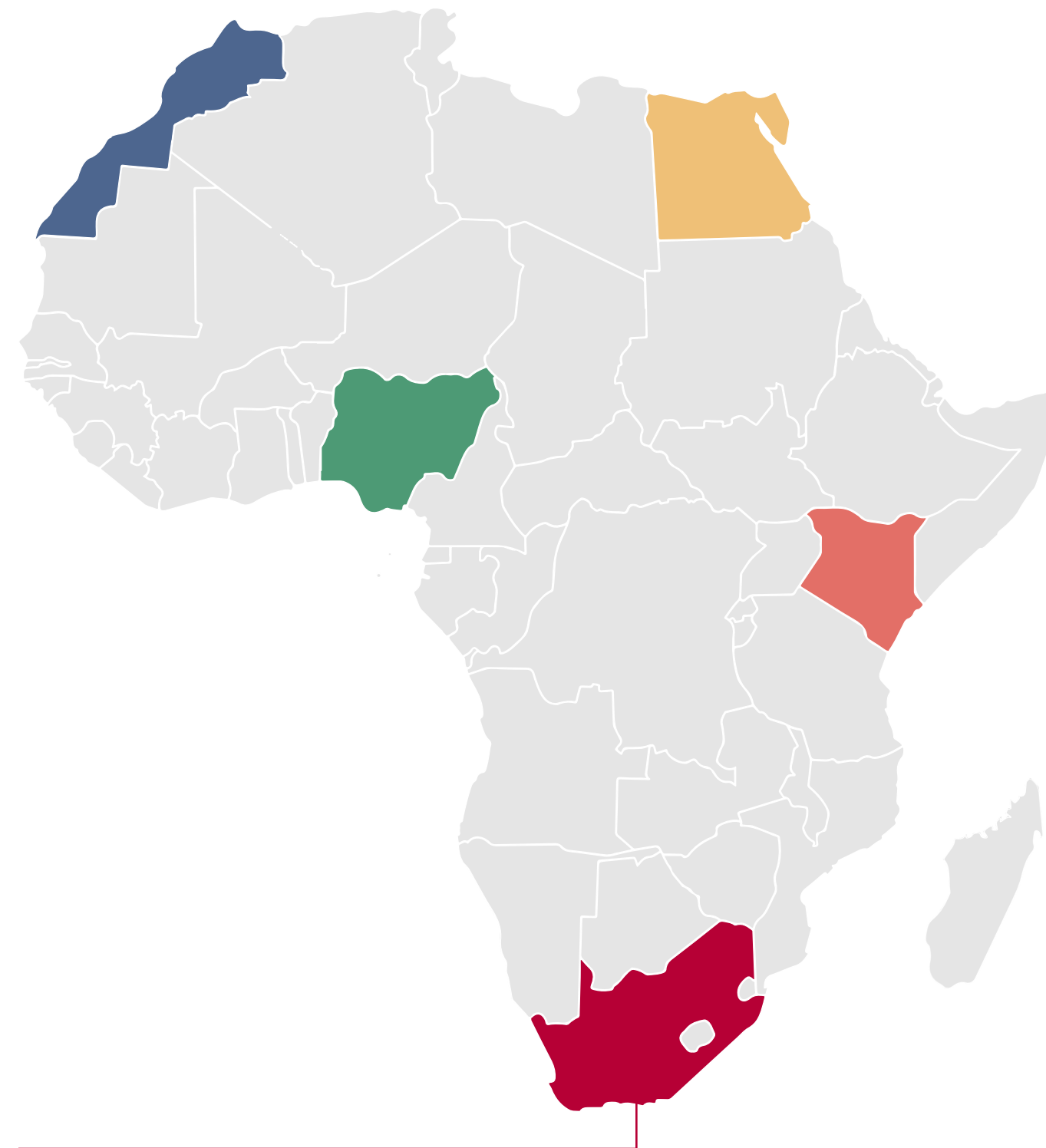
Local Players



- » Local manufacturing capacity still significantly lags growing domestic demand, with unmet demand being filled with exports. Strong local demand is driven by a growing population, and increased economic and health care spending.
- » Some multinationals have local manufacturing plants in South Africa but also supplement their inventory with imports from their other international manufacturing plants. This helps the MNCs increase their market share in South Africa as they can provide a consistent supply of medicines at competitive prices.
- » The country's top export destinations for its pharmaceuticals include Belgium (c. 34%), Kenya (c. 18%), and Namibia (c. 13%). Conversely, South Africa imports most of its pharmaceuticals from India (c. 20%), Germany (c. 12%), and USA (c. 10%).
- » SAHPRA is the South African Health Products Regulatory Authority, responsible for the registration, control, safety, quality, and efficacy of medicines, medical devices, and related products in South Africa. Additionally, SAHPRA is responsible for evaluating applications for clinical trials of new medicines and for monitoring the conduct of these trials to ensure that they are conducted in accordance with good clinical practice guidelines. **SAHPRA is yet to reach WHO level 3 maturity to be internationally recognized for medicines but reached maturity for vaccine production in 2022.**

Source: UN Comtrade
1. Segmented according to Standard International Trade Classification

Investments in South Africa have focused on pharma, production and care provision – with South Africa’s industrial base being a driving factor

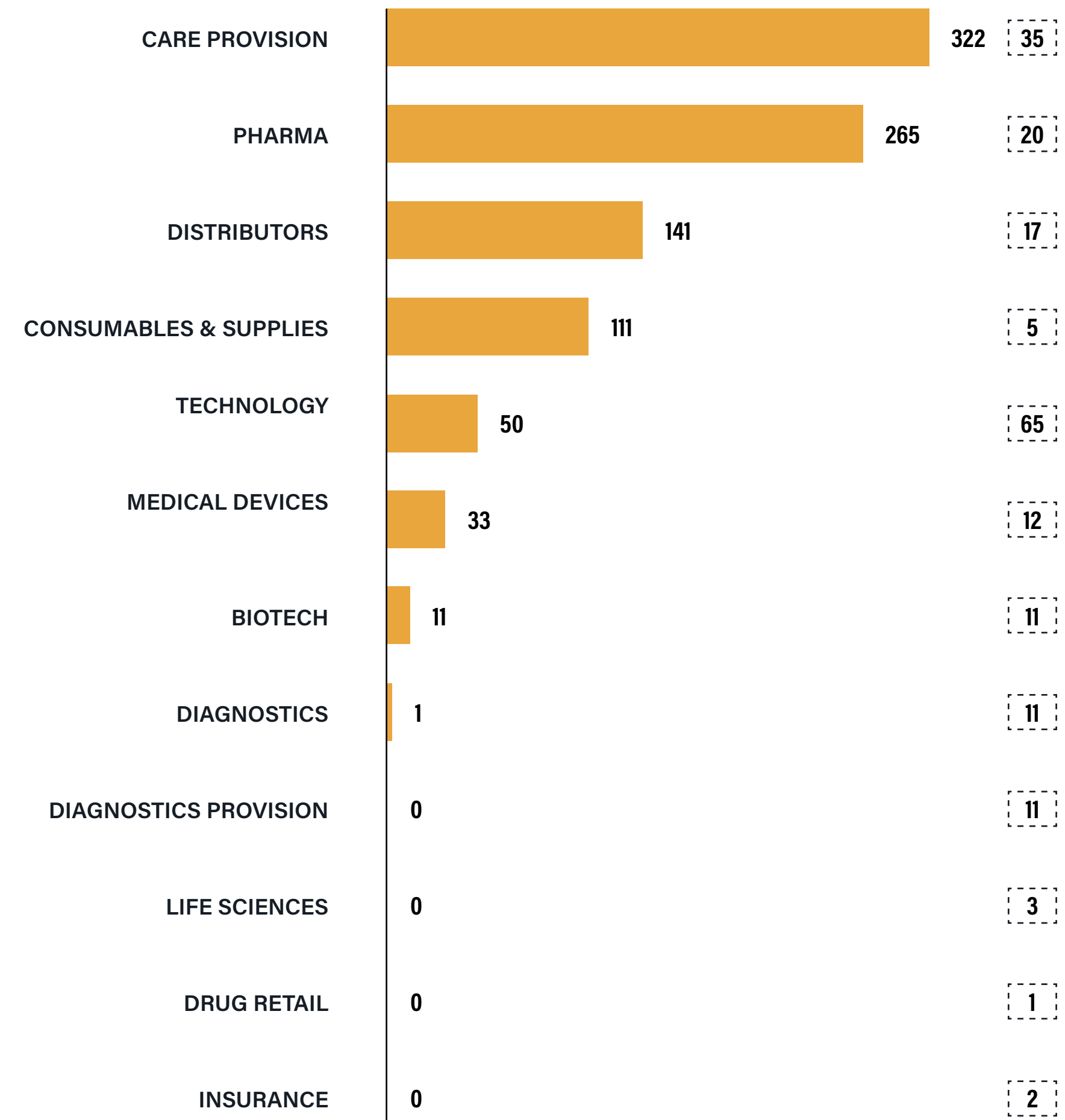


SOUTH AFRICA US\$935M (22% of volume)

Key sectors:

- » Care provision and facilities (35%)
- » Pharmaceuticals (28%)
- » Distributors (15%)

Industry Breakdown by Deal Value (US\$M) and Volume ¹



DEAL VALUE (US\$M) [X] DEAL COUNT

Source: Pitchbook, CapIQ
 1 - Excludes debt investment, grants and volumes only include disclosed amounts

South Africa has a robust local market for with incubators and VCs investing in tech-enabled models for healthcare



<p>INVESTOR DESCRIPTION</p>	<p>Savant is one of the most active healthcare investors in South Africa by the number of investments. Founded in 2005, Savant is an incubator and non-profit VC based in Cape Town</p>	<p>Founded recently in 2019, Enza Capital is a venture capital firm headquartered in Nairobi, Kenya. The firm seeks to make investments in early-stage companies focused on the technology sector</p>	<p>Launched in 2018 and based in Johannesburg, South Africa, Founder Factory is an accelerator investing across different sectors including healthtech</p>
<p>INSTRUMENT AND TICKET SIZES</p>	<p>Savant offers seed capital with ticket sizes of up to US\$1M</p>	<p>With a preferred ticket size between US\$0.05M to 1M, Enza Capital mostly provides seed capital</p>	<p>Founder Factory offers seed capital with average ticket sizes ranging from US\$ 40K to 600K</p>
<p>SELECTED HEALTH-CARE TRANSACTIONS IN SOUTH AFRICA</p>	<p>Akili Labs: a provider of molecular diagnostic services received \$0.04M and joined the Savant Incubator</p>	<p>Quro Medical: Operator of digital health company intended to provide hospital-at-home services in Southern Africa</p> <p>Vula Mobile: Developer of a health application designed to connect primary healthcare workers in remote areas with on-call specialists</p>	<p>LocumBase: Locumbase a company that facilitates frictionless placement of verified locums to practices, pharmacies, hospitals and clinics received US\$30K as part of Venture Scale Program by Founder Factory</p>
<p>PIPELINE CRITERIA</p>	<p>Focuses on investing in early-stage technology companies with protectable technologies and sustainable competitive advantages</p>	<p>Open to investing in early-stage tech-enabled healthcare opportunities in Nigeria, with a focus on ESG and impact investments</p>	<p>The accelerator is actively mostly in Fintech, Healthtech, and Agtech. Founder Factory has invested in other African markets including in Nigeria, and Kenya</p>

In 2022, South Africa closed \$164M¹ of deals in healthcare across 36 transactions including in technology and provision of care services

Snapshot of recent transactions:



The prescription medicine portfolio of Aspen was acquired by Acino, via its financial sponsors Ardian, Nordic Capital, Constitution Capital Partners, Avista Capital Partners and Private Equity Holding, through a \$119 million LBO

Pharmarun received an undisclosed amount from GreenHouse Capital. The company joined thirteen other start-ups across East & West Africa to participate in the Scaleup Accelerator Program



Aspen sold its portfolio of six South African prescription medicines including for the treatment of gastroenterology, and cardiovascular diseases.



Operator of an on-demand pharmacy delivery platform intended to make the online ordering of medicines convenient

Source: CapIQ and Pitchbook
1. Includes only disclosed deal values

PROSPER AFRICA

Countries of Focus

Nigeria

Kenia

South Africa

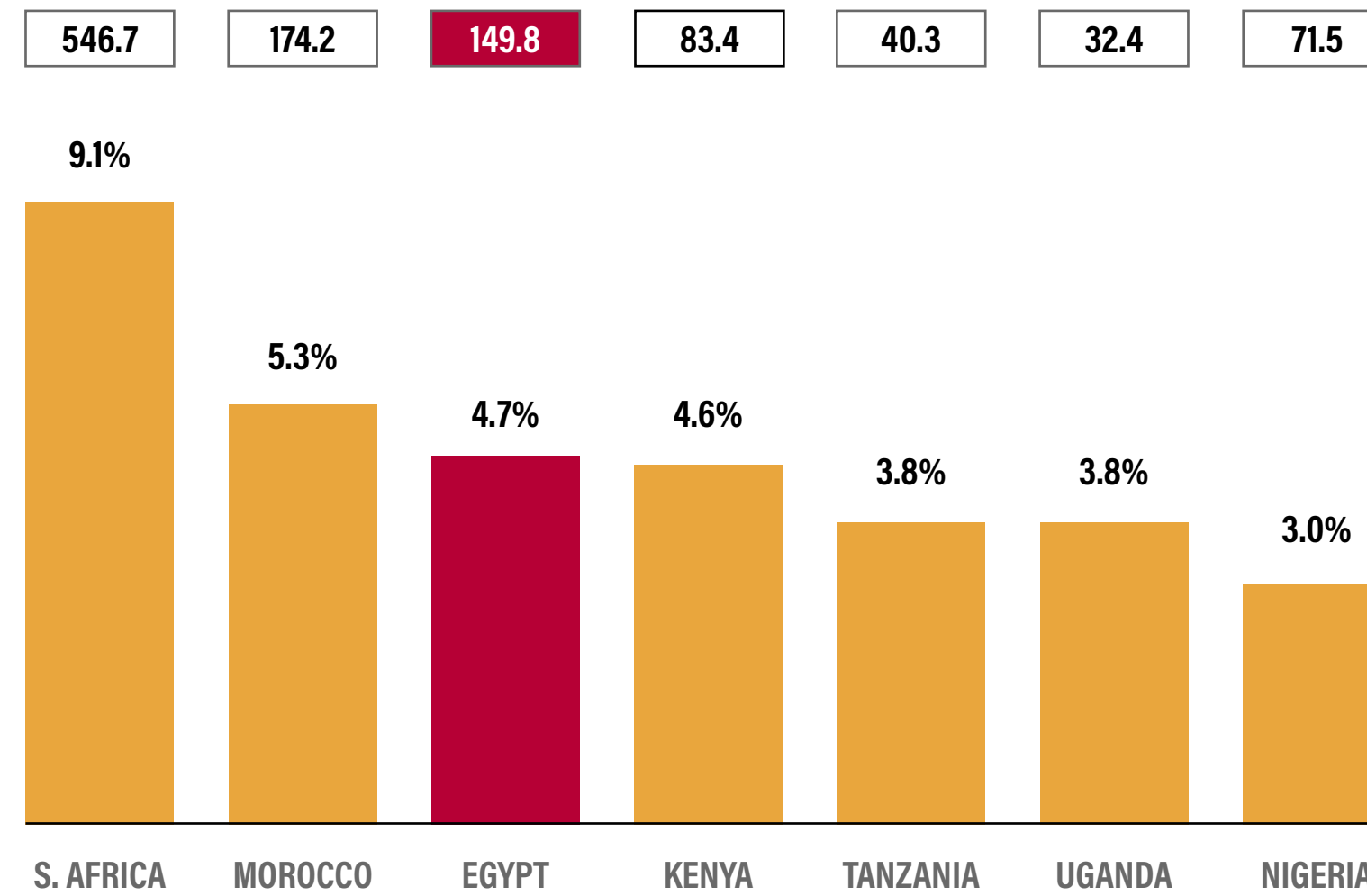
» Egypt

Morocco

Egypt has one of the highest healthcare spends per capita in Africa but struggles with fair and equitable access

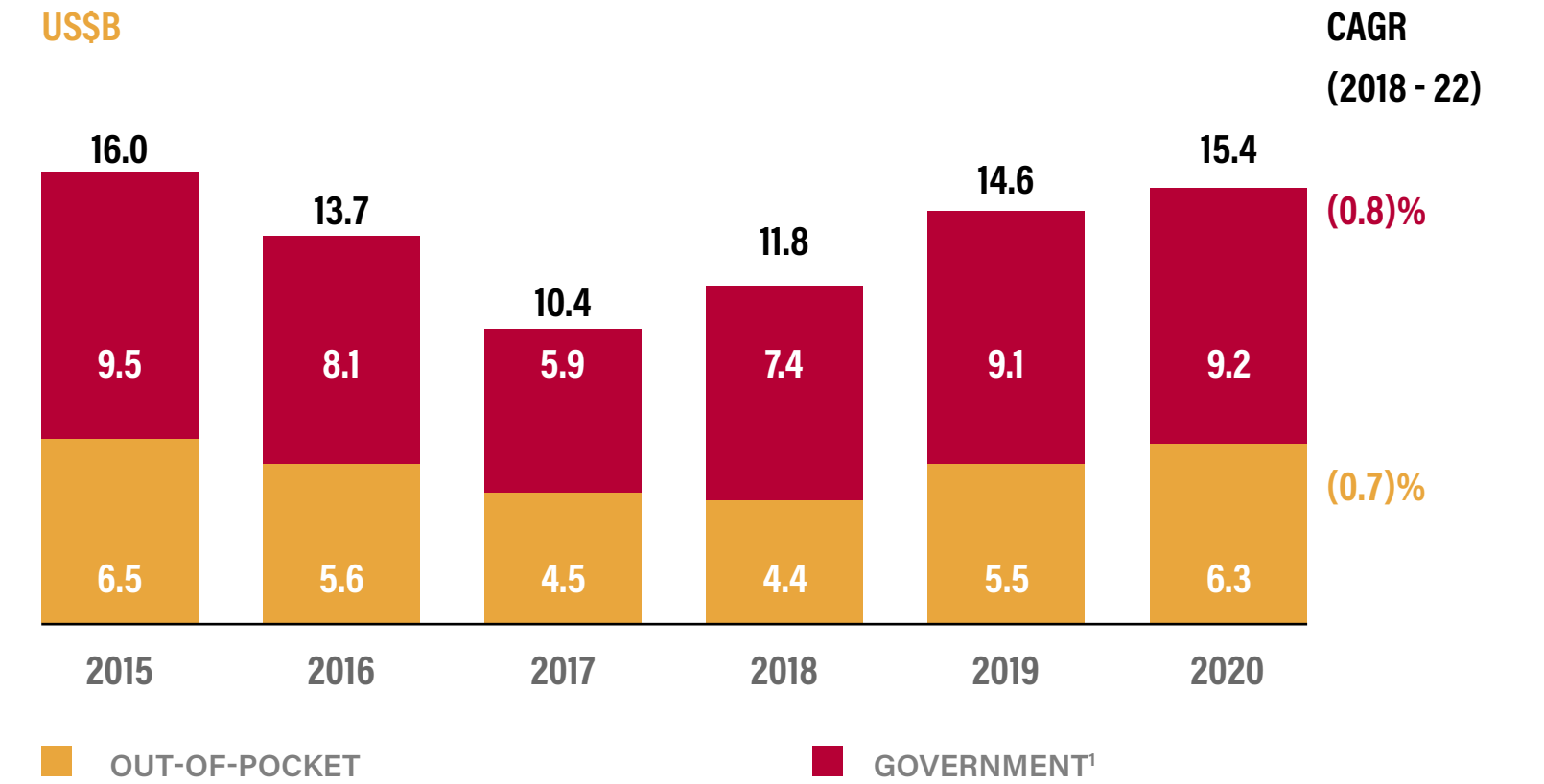
Healthcare Spend (vs. select African countries)

Healthcare Expenditure Per Capita and as % of GDP, 2019 (US\$)



The Egyptian healthcare system is characterized by a mix of public and private facilities. However, it has been strained by rapid population growth and low levels of funding, which has led many Egyptians to opt for private facilities. This has led to **high levels of out-of-pocket expenditure** and an increased desire for private insurance

Egypt Healthcare Spend



Egyptian healthcare spend was generally trending downwards since 2016, but slowly recovered beginning in 2019 on the back of new universal healthcare coverage and COVID roll-out :

Low medical care utilization:

Low-income groups have lower chronic care utilization rates in Egypt and report fewer chronic illnesses compared to high-income groups. High-income groups spend more on chronic care services than other types of healthcare, even though they report fewer chronic illnesses. Additionally, low-income women are 20% less likely to receive regular antenatal care than women in higher income groups, and under-five mortality for the poorest children is 42 deaths per 1,000 live births, versus 19 in the highest income quintile

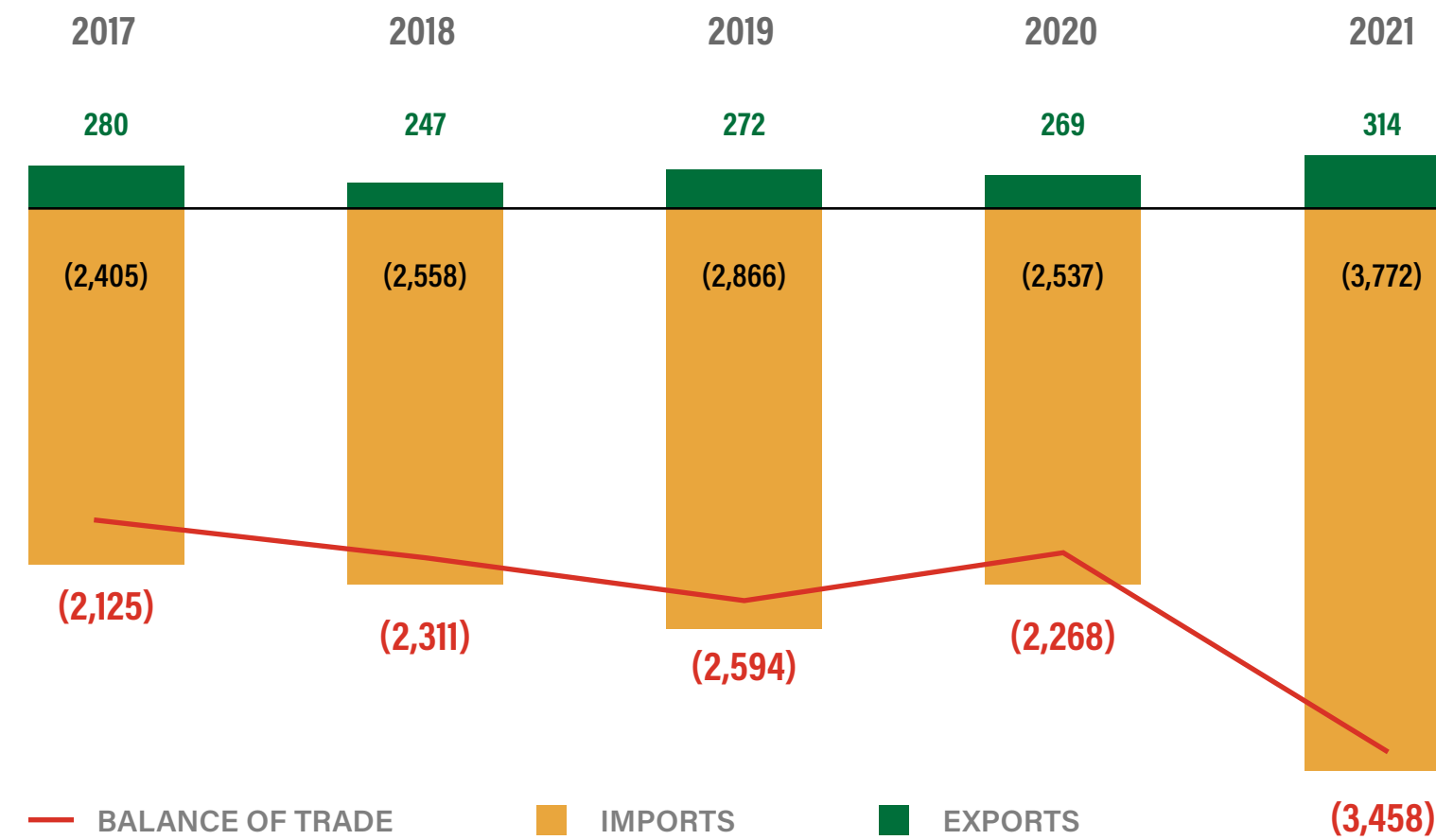
Universal coverage:

In 2019, Ministry of Health started rolling out a new comprehensive health insurance system that would be rolled out in the country in six phases over a 15-year period

Source: World Bank, WHO, BMI Nigeria Healthcare Report 2018, McKinsey Urban World Projection (2015), Standard Bank (2014), Price Waterhouse Coopers Report (2016), Informa Market North Africa Health (2020)
 1. Government spending includes other expenditures such as external aid, voluntary health insurance contributions, and social health insurance contributions

Despite the a robust and growing set of local pharma companies, Egypt's pharmaceutical industry is still heavily reliant on imports

Pharmaceutical Balance of Trade (US\$M)¹



Top pharmaceutical players (2019)

MNC Players



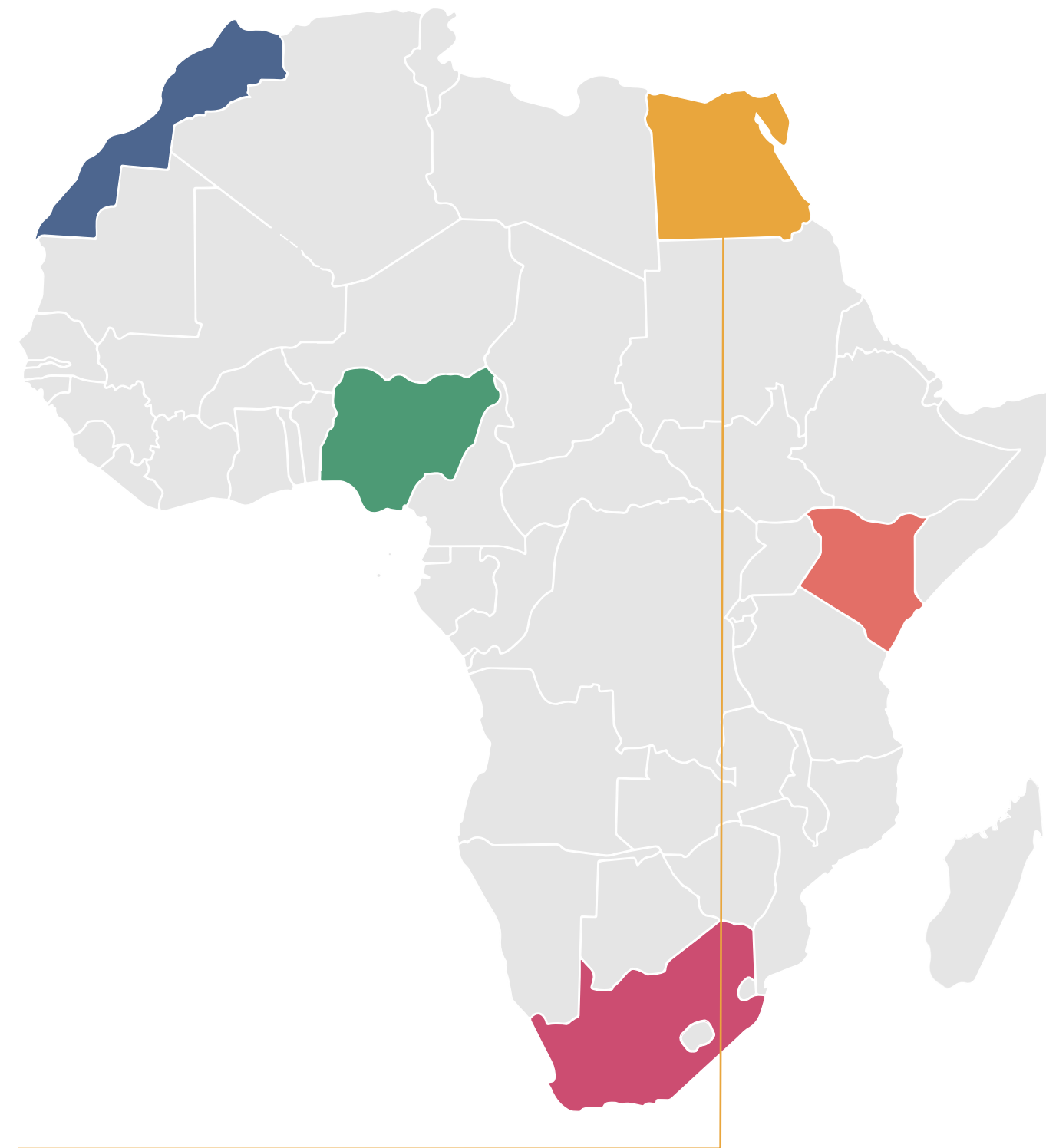
Local Players



- » Egypt continues to strengthen and expand its local production capacity and has been an attractive market for investors looking to build or add to pharmaceutical platforms. Recently, the IFC partnered with Egyptian pharmaceutical producer, Rameda, to support the company's strategy to green its operations and improve its production efficiencies in order to boost the company's productivity.
- » The country's top export destinations for its pharmaceuticals include Yemen (c. 15%), Saudi Arabia (c. 11%), and Iraq (c. 8%). Conversely, Egypt imports mostly from Switzerland (c. 16%), US (c. 11%), and Germany (c. 11%).
- » The Egyptian Ministry of Health established the Egyptian Drug Authority (EDA) in 2008 with the aim of having an independent regulatory body responsible for all pharmaceutical-related activities, similar to the function of the FDA in the United States. **In 2022, EDA reached WHO maturity level 3 for vaccines regulation (locally produced and imported).**
- » The Universal Health Insurance (UHI) Law of 2018 is expected to further stimulate demand for pharmaceuticals. The UHI law will provide universal access to healthcare for all Egyptian citizens regardless of ability to pay, which is likely to increase the number of people seeking medical treatment and using health services. This in turn is expected to lead to an increase in the demand for pharmaceuticals, as more people will be able to afford to purchase and use medications to manage their health conditions.

Source: UN Comtrade
1. Segmented according to Standard International Trade Classification

Investments in Egypt have focused on pharma, as investors have been looking to find large manufacturing platforms for export-oriented growth

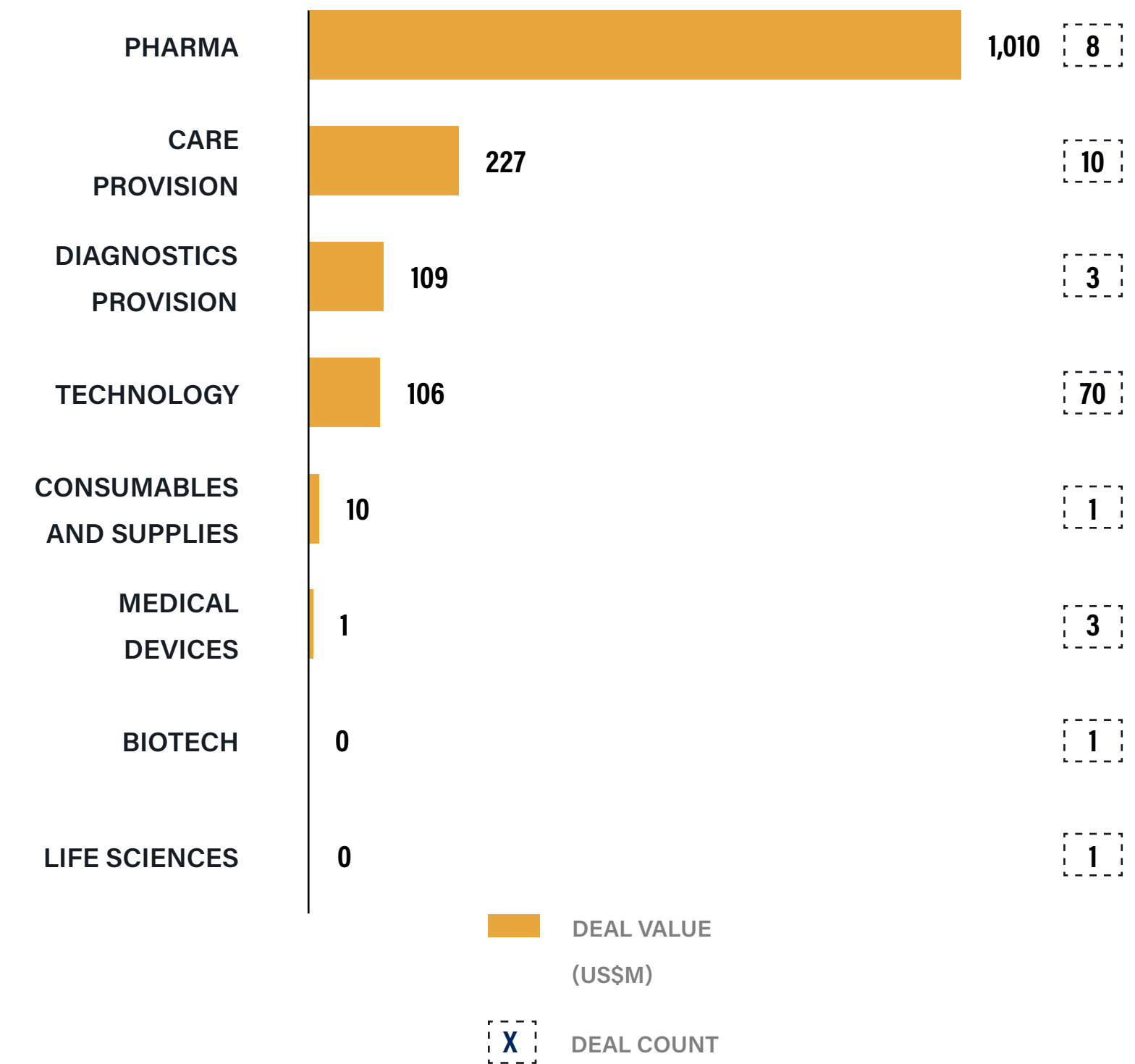


EGYPT US\$1.5B (35% of volume)

Key sectors:

- » Pharmaceuticals (69%)
- » Care provision and facilities (16%)
- » Diagnostic provision (8%)

Industry Breakdown by Deal Value (US\$M) and Volume ¹



Source: Pitchbook, CapIQ
 1 - Excludes debt investment, grants and volumes only include disclosed amounts

The investment landscape in Egypt is dominated by venture capitalists looking to capitalize on the burgeoning tech landscape and links to the GCC



500

	FLAT6LABS	FALAK STARTUPS	500
INVESTOR DESCRIPTION	Founded in 2011, Flat6labs is an active seed and early-stage VC based in Cairo. The firm invests across the MENA region and has AUM of about \$85M	Founded in 2018, Falak Startups is an accelerator based in Egypt with an AUM of about \$4.5M and 96 total investments of which 6% have been in healthcare	Founded in 2010, 500 Global is a US venture capital firm with a focus across multiple sectors including healthcare. The firm has about \$2.8B AUM
INSTRUMENT AND TICKET SIZES	Flat6labs offers mostly equity with a preferred investment amount between \$50K – \$0.5M	Falak Startups offers mostly equity.	500 Global offers mostly equity with a preferred investment amount between \$100K – \$300K
SELECTED HEALTH-CARE TRANSACTIONS IN EGYPT	Otida: is a developer of glucose monitoring kit and health tech platform designed to offer an innovative and efficient care model for diabetic patients. Otida received seed funding from Flat6labs and other investors in 2022	3elagi: is a developer of a medical app designed for making connections with pharmacies, labs, and healthcare providers in the same geographical areas	Chefaa: is a developer of an on-demand medicine delivery platform intended to connect patients with local pharmacies. The company raised \$1.5M of pre-series A funding from 500 Startups and other investors
PIPELINE CRITERIA	Open to investing in early-stage tech-enabled healthcare opportunities in Egypt	Industry agnostic and focuses on tech-enabled and scalable startups. Also have accelerator sub-tracks that are sector-specific with the support of key industry partners	Targets tech enabled companies across several industries. Prefers minority stake

In 2022, Egypt closed \$58M¹ of deals in healthcare across 19 transactions including in pharmaceuticals and provision of care services

Snapshot of recent transactions:



Nerhadou received \$20 million of development capital from StonePine ACE Partners and Affirma Capital (spun out Standard Chartered PE) in exchange for a significant minority stake



Doxx (Clinics/Outpatient Services) raised \$1.5 million of seed funding in a deal led by Openner. Elevate Private Equity also participated in the round



Provider of pharmaceutical products made in an FDA compliant manufacturing facility intends to expand its existing operations and expedite the launch of multiple products in the Egyptian and regional markets



The company's platform helps to bridge the gap between the patients and the healthcare community and increase the quality-of-care delivery, enabling patients to take control of their medical records, lead healthier lifestyles and find the right medical care required through a network of fully integrated service providers

Source: CapIQ and Pitchbook
1. Includes only disclosed deal values

PROSPER AFRICA

Countries of Focus

Nigeria

Kenya

South Africa

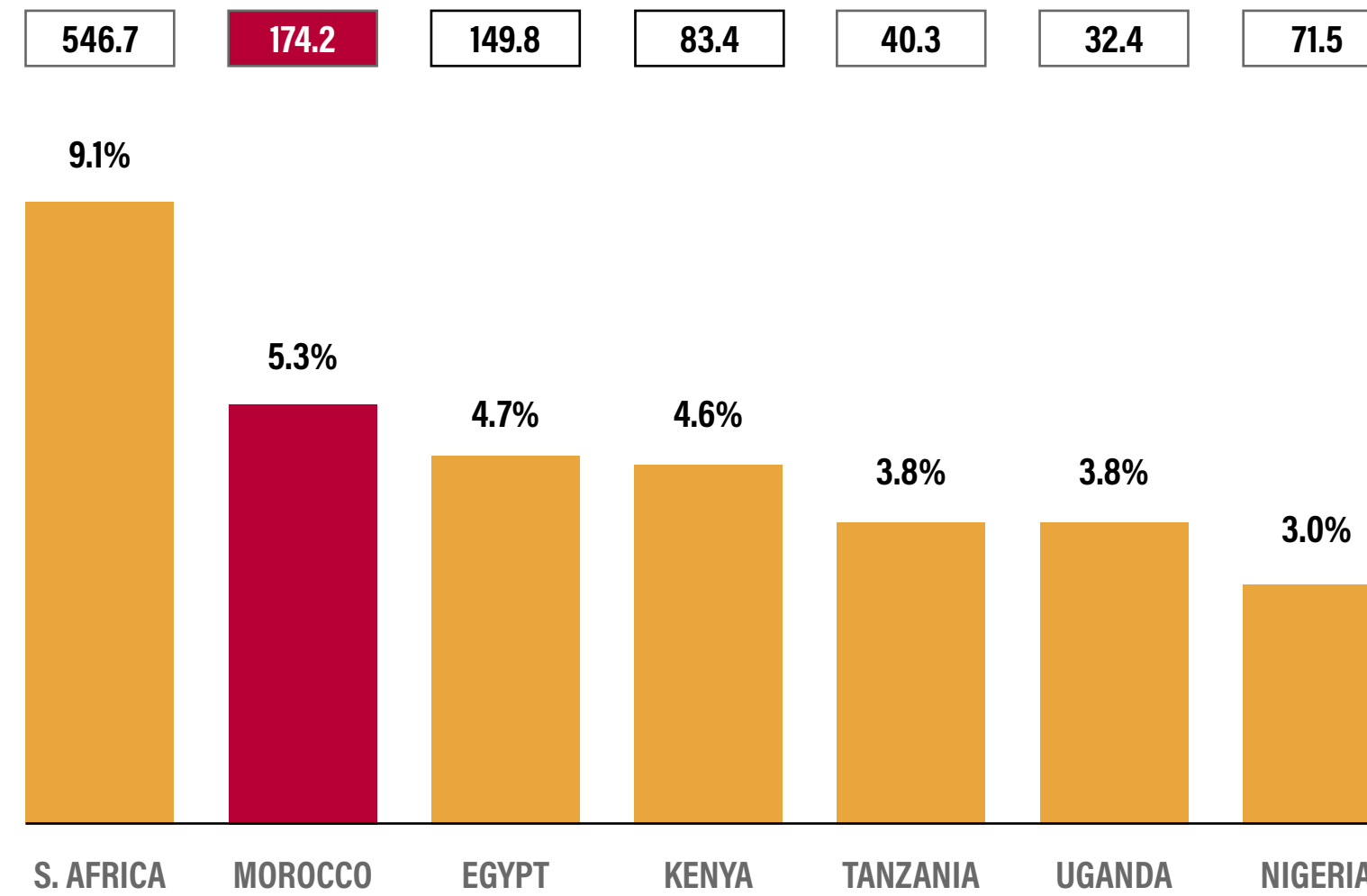
Egypt

» Morocco

Out of pocket spending remains higher than world averages, but recent expansion of national insurance is changing this mix

Healthcare Spend (vs. select African countries)

Healthcare Expenditure Per Capita and as % of GDP, 2019 (US\$)

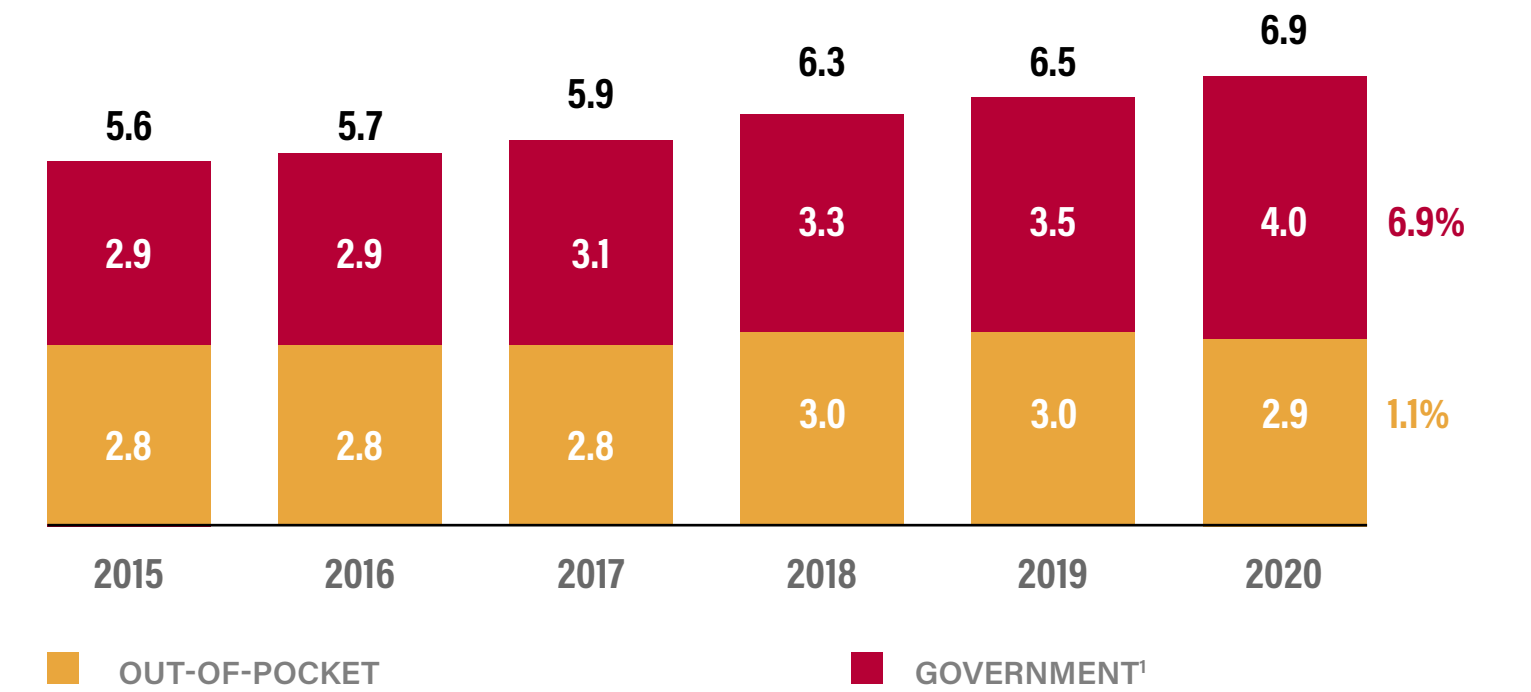


The Moroccan population has seen a **significant increase in longevity and a reduction in maternal and infant mortality**. However, **inequities between rural and urban areas and socioeconomic levels remain a significant challenge**.

Morocco Healthcare Spend

US\$B

CAGR (2015 - 20)



A significant share of healthcare spending remains out-of-pocket, with individuals who use private health care providers incurring substantially higher costs than those who use public providers per care utilization:

Investing in HC systems to build capacity and improve utilization: In May 2018, the Ministry of Health introduced the National Healthcare Plan 2025 with a budget of about US\$2.5B of investments including US\$1.5B for the improvement of hospital capacity and US\$1B for the reinforcement of various national health and disease-control programs.

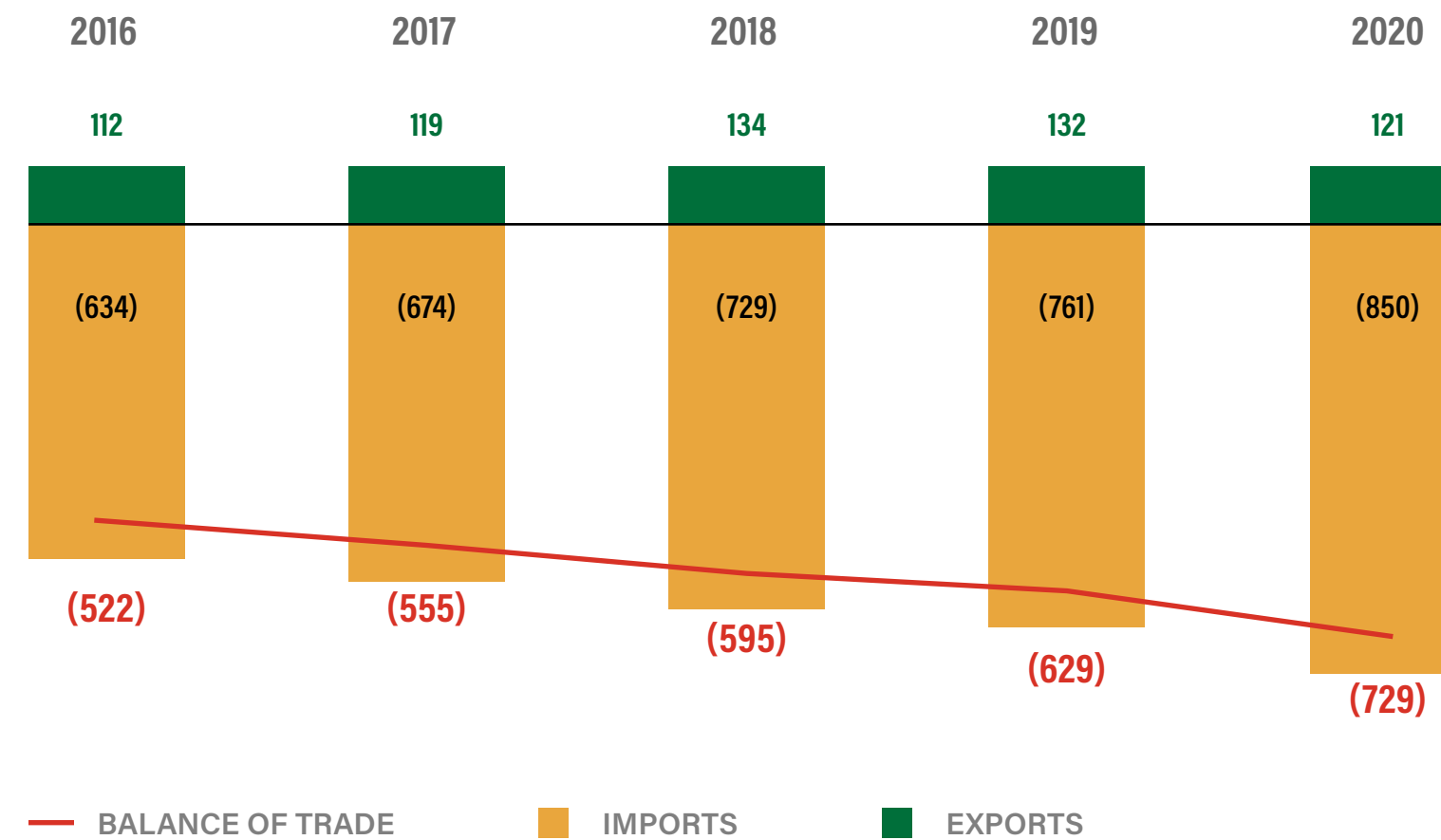
Road to Universal Coverage

Morocco has been on the road to universal coverage since 2002 through the adoption of Law 65-00. Since the introduction of Law 65-00 on basic medical coverage, Morocco has made enormous progress in terms of population coverage. MOH data shows that UHC now exceeds of 70% as of 2021.

Source: World Bank, WHO, BMI Nigeria Healthcare Report 2018, McKinsey Urban World Projection (2015), Standard Bank (2014), Price Waterhouse Coopers Report (2016), Informa Market North Africa Health (2020)
 1. Government spending includes other expenditures such as external aid, voluntary health insurance contributions, and social health insurance contributions

Morocco has one of the continent's most robust pharmaceutical industries, with its strategic location offering access to large export markets

Pharmaceutical Balance of Trade (US\$M)¹



Top pharmaceutical players (2019)

MNC Players



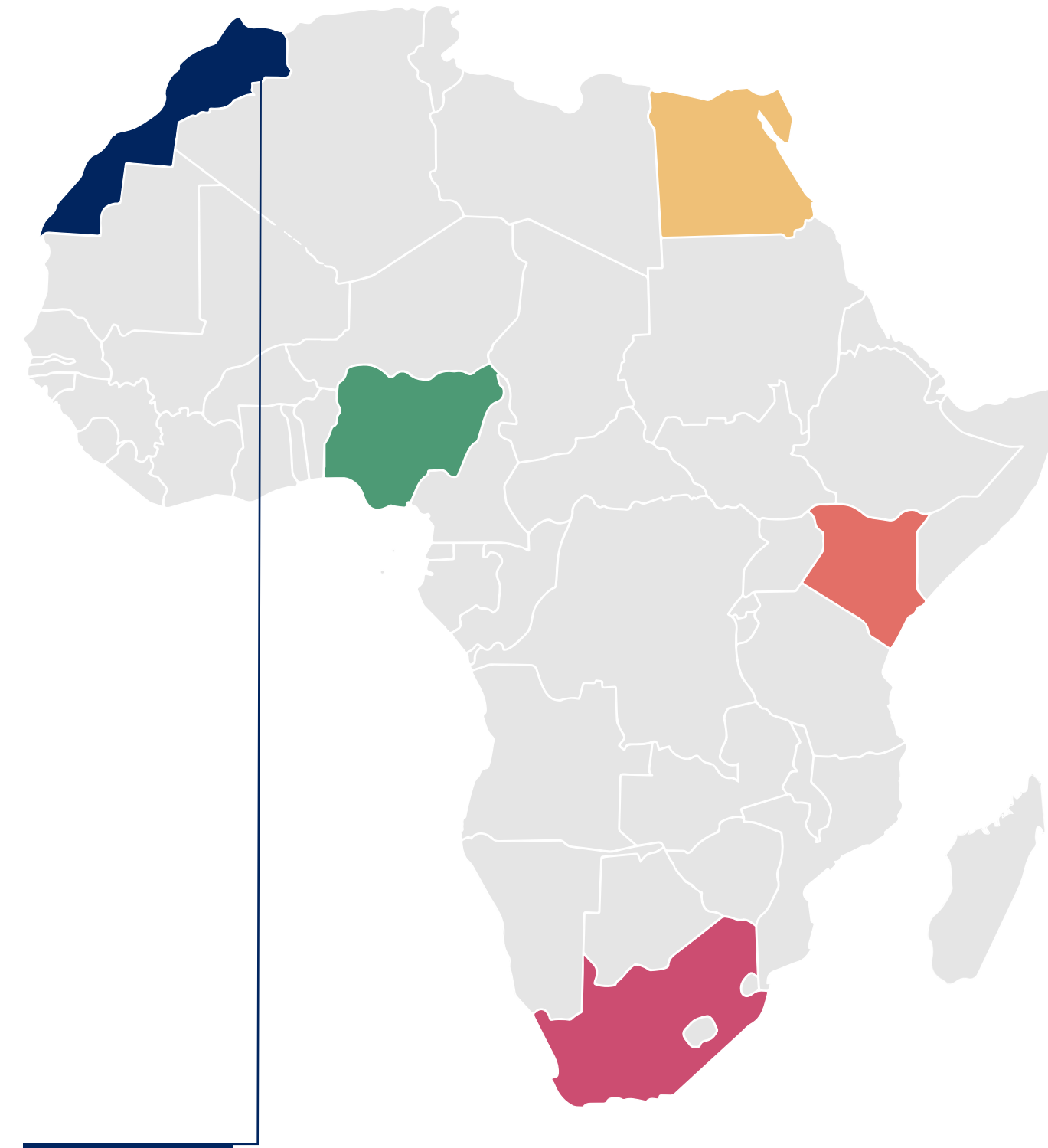
Local Players



- » The Moroccan pharmaceutical industry is one of the most developed in Africa. With local production dating back at least 50 years, the industry's strongest areas are in manufacturing oral form medicines, dried tablets, effervescent tablets, syrups, oral suspension, dermal applications, suppositories and inhaled application like aerosols.
- » Although the country has strong local manufacturing, Morocco is still a net importer of pharmaceuticals. However, Morocco's stable political environment and strategic location in the Mediterranean region, which connects Sub-Saharan Africa, the Middle East, and Europe, are expected to strengthen the local industry and position the country for increased export volumes.
- » The country's top export destinations for its pharmaceuticals include France (c. 61%), Senegal (c. 6%), and Mauritania (c. 4%). Conversely, Morocco imports mostly from China (c. 40%), France (c. 11%), and Germany (c. 9%).
- » The Director of Medicines and Pharmacy (DMP) under the Ministry of Health and Social Protection is responsible for establishing standards for the manufacture, packaging, circulation, sale and storage of medicines, pharmaceutical and parapharmaceutical products. **DMP is yet to reach a WHO maturity level to be internationally recognized as a stringent regulatory authority.**

Source: UN Comtrade
1. Segmented according to Standard International Trade Classification

More than half of investment value was in pharma. as investors capitalize on the growing generics market and strategic location of Morocco

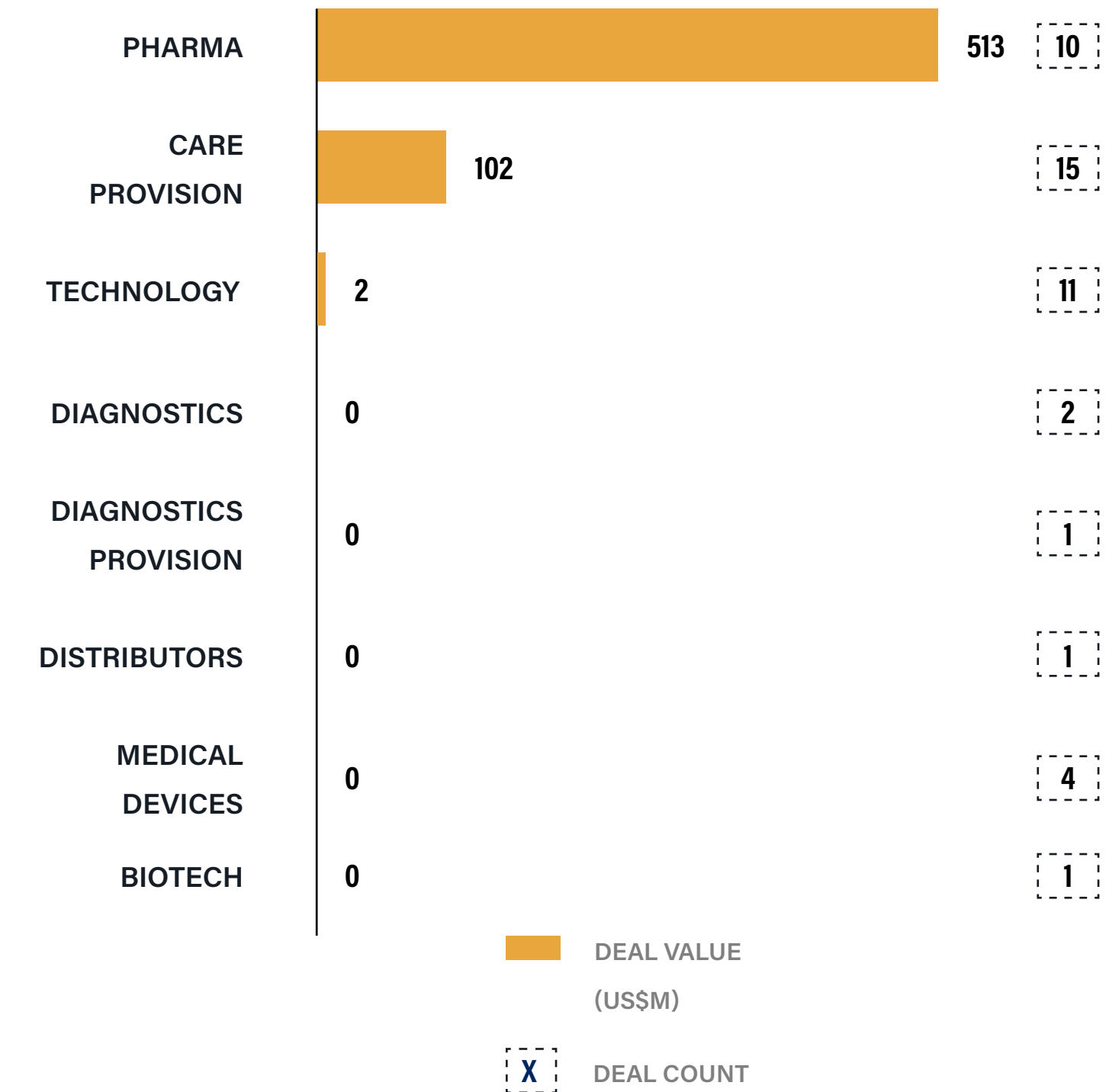


MOROCCO US\$617M (15%)

Key sectors:

- » Pharmaceuticals (83%)
- » Care provision and facilities (17%)
- » Information Technology (0.3%)

Industry Breakdown by Deal Value (US\$M) and Volume ¹



Source: Pitchbook, CapIQ
 1 - Excludes debt investment, grants and volumes only include disclosed amounts

Availability of more mature assets, particularly in pharma has attracted private equity investment into Morocco



	CDG CAPITAL GROUPE CDG	AFRICINVEST	MEDITERRANIA CAPITAL PARTNERS
INVESTOR DESCRIPTION	Founded in 2001, CDG Capital firm seeks to make majority investments through buyouts, management buyouts, and management buy-ins. The firm also seeks to make minority investments in growth-stage, later-stage, and early-stage companies	Founded in 1994 and with AUM of c. US\$1.5B, AfricInvest is PE based in Tunis offering venture, growth and buyout capital. The firm's preferred investment horizon is 4 – 6 years	Founded in 2008, Mediterrania Capital Partners is a growth equity firm based in Valletta, Malta. The firm seeks to make growth investments in African small & medium companies that are operating in education, healthcare, financial services, and ICT
INSTRUMENT AND TICKET SIZES	Median Investment amount is c. US\$11M	Wide range of product offerings (equity, mezzanine, and debt) through multiple active vehicles	Preferred ticket size: €10 – 35M of equity
SELECTED HEALTH-CARE TRANSACTIONS IN MOROCCO	Soludia Maghreb: Developer of medicine formulas and medicines. The company offers bicarbonate powder for dialysis, acid distribution, pharmaceutical product	Clinique Badr: Operator of a clinic based in Morocco. The company offers different treatments such as radiology, catheterization, cardiology, resuscitation, urology and gyneco obestrics	Kosmopharm Pharmaceutical Laboratory: Operator of a pharmaceutical laboratory founded in 1997. The company offers drugs, food and cosmetic supplement. Other African healthcare investments include Metamed , Biopharm , Cairo Scan and Coral Park
PIPELINE CRITERIA	Invests through convertible obligations. Can take minority stakes or majority stakes	Preferred deal types are Buyout/LBO, PE Growth/Expansion	Focuses on growth capital, Management Buy-Out, and Management Buy-In. Also, assesses ESG and impact as part of investment criteria

In 2022, Morocco closed eight healthcare transactions, with half in technology

Snapshot of recent transactions:



Kosmopharm Pharmaceutical Laboratory was acquired by Dislog Group, via its financial sponsor Mediterranean Capital Partners, through an LBO on February 4, 2022 for an undisclosed amount.



Blinkpharma received funding from Azur Innovation, a fund managed by Azur Partners. Azur Partners is a PE and VC firm specializing in growth capital, seed, startup, early venture, mid venture, late. It prefers to invest in Africa, specially in Morocco, and Europe.



Operator of the pharmaceutical laboratory based in Casablanca, Morocco. The company offers drugs, food and cosmetic supplements.



Operator of a platform that connects pharmacists with laboratories and the wholesalers. The platform also provides solutions, including pharmacy communications, targeting pharmacies, alerts and notifications, performance monitoring, and investment analysis.

Source: CapIQ and Pitchbook
1. Includes only disclosed deal values

PROSPER FRICA

A U.S. TRADE AND INVESTMENT INITIATIVE

