



HEALTHCARE AFRICA

+ Association For
Laboratory Medicine

+ Field Intelligence

+ **BIG INTERVIEW:**
Dr. Amit Thakker

+ Antimicrobial
Resistance

+ **INSIGHT:** Vas
Narasimhan,
Novartis CEO

+ Choosing
Ventilators

+ Vaccine
Making in
Africa



STEPHANIE KOCZELA

**Penda Health's Co-Founder &
CEO on their 10 Year Journey &
Company's Impact in Kenya**

THE **BIGGEST** HOSPITALS EXPO IN EASTERN AFRICA



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NOVEMBER 17-19, 2022 | SARIT EXPO CENTRE, NAIROBI, KENYA

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- Natural, organic and nutritious foods
- Exercise and fitness



CONTENTS

22



PENDA HEALTH: Providing affordable healthcare to Nairobi's growing population with love and technology at the Core

REGULARS

- 4 Editorial
- 6 News Updates

42



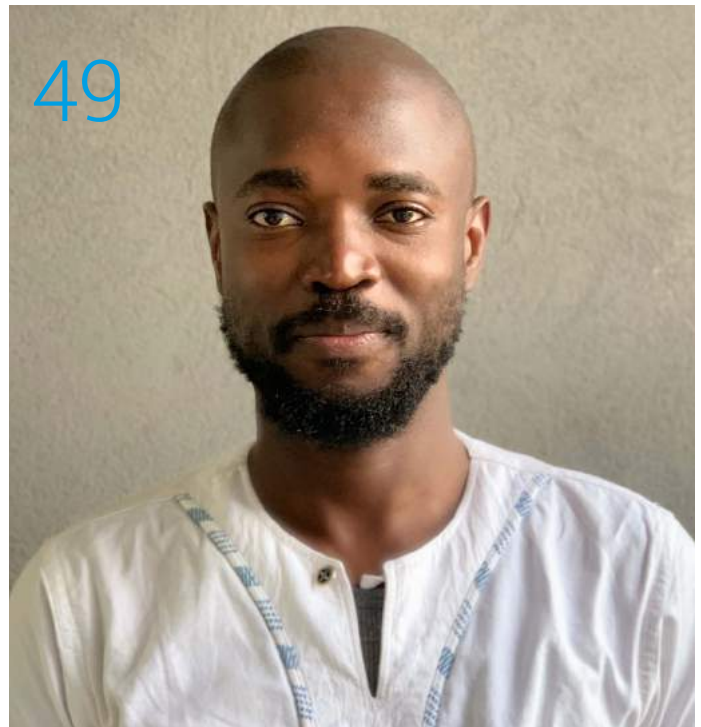
DR. AMIT N. THAKKER: Chairman, Africa Healthcare Federation

32



ASSOCIATION FOR LABORATORY MEDICINE: Building Africa's Laboratory Diagnostics Capacity For The Next Pandemic

49



How Dr. Labor & The Team At Field Intelligence Streamlining Africa's Pharmacy Value Chains

CONTENTS



54 Focus On Digital Health



67 Nigeria needs to address incessant strikes by doctors. It can't afford not to



60 A COVID-19 vaccine plant in Africa? This is what it would take to build one



69 India's pharma industry vital for world's vaccination programme



62 Vas Narasimhan: What I learned in my three years as CEO



72 Antimicrobial resistance: a silent pandemic requiring global action now



65 Choosing the right ventilators: Here's what hospitals need to know



74 Africa's Shot at Local Pharma Production

INAUGURAL HEALTHCARE AFRICA MAGAZINE, A PUBLICATION THAT WILL REVOLUTIONIZE HEALTHCARE

Health care in Sub-Saharan Africa has been termed the worst in the world, with few countries able to spend the US\$34 to US\$40 a year per person that the World Health Organization considers the minimum for basic health care.

HealthCare Africa magazine is primarily focused on telling the stories of the opportunities, market trends and challenges in Africa's healthcare sector to an audience of key decision makers in the industry value chain in Africa and beyond.

The magazine, which runs the www.HealthCareAfrica.info website, achieves this mandate by talking directly to investors, managers and professionals in the private sector; suppliers of healthcare and related technologies; Government agencies, NGOs and development partners; academicians and researchers and other stakeholders in the sector.

The print magazine, which is to be published every two months, is distributed directly to identified stakeholders in the healthcare value chain in Eastern and Southern Africa. The digital edition of the magazine is available for FREE on the website for a worldwide readership.

The magazine and website, which are a regional first are expected to inform the healthcare industry stakeholders in Africa and beyond, of the vast opportunities, market trends and regulatory updates in Africa and the World.

The magazine and website cover the latest news and trends from the health sector in Africa and the World, highlighting such important elements such as:

- Regulatory and policy updates;
- New investments and funding in the sector;
- Mergers, acquisitions and

- divestments;
- Latest research and development breakthroughs; and
- Innovations and new product releases by the industry stakeholders.

The primary audience for the website and the magazine are stakeholders in the following sectors of the industry:

- Hospitals – private, public, non-profit and faith-based;
- Academia and research institutions and consultants;
- Pharmaceutical manufacturers, distributors and traders;
- Suppliers of new technologies to the healthcare sector e.g. equipment, laboratory testing and consumables etc
- Clinics, Pharmacies, drug stores etc;
- Laboratories and diagnostics centres;
- Government ministries, regulatory agencies and parastatals;
- Development partners, multi-lateral organizations and embassies

The magazine and website engage with the key decision makers across the healthcare industry in Africa, including investors, managers and professionals, industry associations and carry regular interviews and company profiles of leading players in the healthcare value chain in the continent, providing a 360-degree view to the rise of the sector.

In this particular issue, the magazine covers just but a few trailblazers in the African healthcare space. of Africa, plus other articles that cover the future of healthcare in Africa.

We wish you a good read.

Francis Juma
Publisher



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FOUNDER & PUBLISHER

Francis Juma

EDITORIAL

Margaret Nyaruai | Benjamin Opukol
Lorraine Wangui

ADVERTISING & SUBSCRIPTION

Jonah Sambai | Hellen Mucheru

DESIGN & LAYOUT

Clare Ngode

PUBLISHED BY: FW AFRICA

P.O. Box 1874-00621, Nairobi Kenya
Tel: +254 20 8155022, +254725 343932
Email: info@fwafrica.net
Company Website: www.fwafrica.net

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DISCOVER THE FUTURE OF THE HEALTHCARE & PHARMACEUTICALS INDUSTRY AT THE AFRICA HEALTH & WELLNESS EXPO. WELCOME TO THREE DAYS OF DISCOVERING THE LATEST INVESTMENT OPPORTUNITIES, LATEST TECHNOLOGIES AND NEW MARKET TRENDS THAT ARE SET TO DRIVE THE GROWTH OF THE INDUSTRY IN THE NEXT DECADE - AS THE REGION RECOVERS FROM THE COVID-19 PANDEMIC!

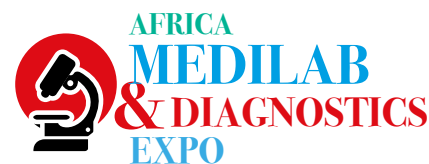
WHAT'S ON SHOW AT THE EVENT



General & Specialty Hospitals • Medical Clinics & Consultancies • Ambulance & Emergency Services • Care & Rehabilitation Centres • Mental health care centres • Wellness centres • Food supplements & nutraceuticals • Diet and weight loss products • Baby health & food products • Natural, organic and nutritious foods



Electrical medical equipment • Patient monitoring equipment • Surgical equipment • Storage & Transport solutions • Patient Mobility & Support solutions • Acute care and procedural equipment • Mobility, software and logistics solutions to hospitals etc. • Consumables for use in medical facilities



Medical laboratory and diagnostics services • Testing, consultancy and training services • Diagnostic equipment and solutions • Medical laboratory and diagnostics consumables • Sanitation, cleaning and hygiene solutions



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Pharmacy chains and chemists • Human pharmaceutical drugs and related products



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Baby and mother care products and services | Food supplements | Vitamins and minerals | Botanicals and tinctures | Personal care & beauty products | Personal wellness services | Exercise and fitness products and services | Cosmetic and reconstructive surgery | Diet and weight loss products

PARTNERSHIP

Tech firm Siemens partners Aspen to enhance vaccine production in South Africa

In more recent developments, Aspen plans to launch its own COVID-19 vaccine



SOUTH AFRICA – Technology enterprise Siemens has partnered with South African pharmaceutical company Aspen Pharmacare to enable faster and more efficient vaccine production while ensuring consistent product quality in Africa.

Siemens will provide Aspen with digital technologies to increase vaccine production capacity to meet the rising demands for COVID-19 vaccines on the African continent.

It will provide enhanced production execution, product tracking, central management of the entire production network as well as introduce additional energy monitoring devices, flow instruments and temperature sensors. The collaboration will also include training and development of skills for the effective maintenance of Aspen’s facility in Gqeberha in the Eastern Region of South Africa.

The joint project will strengthen the global competitiveness of the South African pharmaceutical industry and improve the continent’s resilience against other diseases and future pandemics.

In other developments, Aspen is in the process of licensing the rights for the first African COVID-19 vaccines which it will launch before mid 2022. The company said it would manufacture the vaccine using drug

substances supplied by Johnson & Johnson and then sell the vaccine under the Aspenovax branding to several African countries.

Aspen has also announced a partnership with Swiss Debiopharm to launch Trelstar in South Africa for the treatment of locally advanced and metastatic hormone dependent prostate cancer. The drug also named Triptorelin is a synthetic analogue of Gonadotropin Releasing Hormone (GnRH) developed by Debiopharm to be marketed by Aspen in the country.

Trelstar works by reducing testosterone levels, a hormone essential to prostate cancer growth, where deprivation of testosterone will stop the growth of prostate cancer cells thus alleviating pain and improving the quality of life of patients.

“THE JOINT PROJECT WILL STRENGTHEN THE GLOBAL COMPETITIVENESS OF THE SOUTH AFRICAN PHARMACEUTICAL INDUSTRY.”

TRAINING & CAPACITY BUILDING

African first ladies enhance cancer care capacity in partnership with Merck Foundation



AFRICA – African First Ladies and the respective ministries of health have partnered with Merck Foundation, the philanthropic arm of Merck, in fight against cancer across the continent.

The partnership was celebrated on World Cancer Day 2022 under the theme ‘Close the care gap’ through their respective Cancer Access Programs.

The cancer programs plan to enhance cancer care capacity by increasing the limited number of oncologists and developing multidisciplinary cancer care teams in the respective countries. African health ministries, in collaboration with the foundation, are providing fellowships, diplomas and master degrees in oncology specialties for 90 African doctors from 25 African Countries.

In the latest progress, the foundation aims to raise awareness about violence against females as well as empower girls and women through education to bring in a culture shift through media, art, and fashion.

“Merck Foundation will soon be launching ‘Our Africa’ television program that is set to be the voice of the voiceless and break the silence about social and health issues in Africa thus create a culture shift together,” said Dr. Rasha Kelej, CEO of Merck Foundation.

Merck has also launched interesting storybooks for children and released many inspiring songs on women empowerment supporting girls’ education.

INNOVATIONS

South African biotech Afrigen develops mRNA COVID-19 vaccine

As billionaire opens vaccine manufacturing plant in South Africa

SOUTH AFRICA – South Africa's Afrigen Biologics and Vaccines, a Cape Town-based biotechnology company, has designed and developed the first mRNA COVID-19 vaccine at laboratory scale in Africa.

Afrigen scientists used publicly available sequence of Moderna's mRNA COVID-19 vaccine to make their own version of the shot, which could be tested in humans before the end of this year. The candidate vaccine would be the first to be made based on a widely used vaccine without the assistance and approval of the developer.

"We developed our own processes to come up with the Afrigen mRNA hub vaccine. We started with the Moderna sequence because that gives, in our view, the best starting material," said Petro Terblanche, Managing Director at Afrigen.

The MD added that the company is also working on a next generation

mRNA vaccine that doesn't need freezing temperatures for storage as required for the Pfizer and Moderna doses, which would be better suited to Africa, which often deals with high temperatures, poor health facilities and infrastructure.

Afrigen has agreed to help train companies to make the shot in Argentina and Brazil where online training for some companies began last year and more manufacturers are expected to get on board within the year.

Meanwhile, Patrick Soon-Shiong, a US biotech billionaire, has launched a plant in Cape Town that will produce a billion Covid-19 vaccine doses per year by 2025, making it Africa's largest such factory and potentially helping the world's least vaccinated continent combat the pandemic.

Soon-Shiong launched the initiative with South African President Cyril Ramaphosa at the site of a former

warehouse near Cape Town, where the new facility will be built. Soon-Shiong was born in South Africa and founded NantWorks, a multinational conglomerate with interests in healthcare, commerce, digital entertainment and venture capital in Los Angeles, USA in 2007.

The biotech entrepreneur has also pledged US\$6.5 million in scholarships to employees at the facility. He will also contribute two large DNA sequencers.

“THE CANDIDATE VACCINE WOULD BE THE FIRST TO BE MADE BASED ON A WIDELY USED VACCINE WITHOUT THE ASSISTANCE AND APPROVAL OF THE DEVELOPER.”

TRAINING & CAPACITY BUILDING

GE unveils US\$2.5 million engineer training programme in South Africa

As billionaire opens vaccine manufacturing plant in South Africa



SOUTH AFRICA – General Electric (GE), the leading provider of healthcare technologies, has announced a five-year, US\$2.5 million investment in Johannesburg, South Africa to launch 'Next Engineers', a global initiative focused on increasing the diversity of young people in engineering.

GE has selected Johannesburg

as one of four inaugural locations, aiming to inspire more than 3,500 local students aged 13 to 18 in grade eight to twelve, provide first-hand experiences in engineering and award financial support to pursue further education in engineering.

GE is partnering with PROTEC, South Africa's leading non-profit

organization that empowers local students to pursue and grow in STEM-based careers, to implement Next Engineers locally.

In other news, the US industrial giant has announced it will be splitting into three public companies, as the storied US industrial conglomerate seeks to simplify its business, reduce debt and breathe life into a share price which have badly underperformed the market over the last two decades.

The split marks the end of the 129-year-old conglomerate that was once the most valuable US corporation and a global symbol of American business power.

CANCER CARE

Kenya unveils new cancer facility to promote quality healthcare as it scales up UHC program



KENYA – Kenya’s President Uhuru Kenyatta has launched an ultra-modern regional cancer facility with high-tech equipment to offer comprehensive cancer care to patients.

The cancer center is situated at the Coast General Teaching and Referral Hospital in Mombasa as part of the Universal Health Coverage agenda aimed at delivering quality health services to Kenyans. The national government partnered with the Mombasa County government to establish the facility which will cater to cancer patients in the region and

beyond.

It becomes the second public facility of its type in Kenya after the one at the Kenyatta University Teaching, Referral and Research Hospital in Nairobi. A similar cancer facility will be opened in Nakuru in March, followed by Garissa, Kisumu and Nyeri counties to ensure Kenyans have access to excellent standards of health at affordable costs.

Meanwhile, the President also has introduced the national scale-up of the Universal Health Coverage (UHC) with a call to citizens to register for the National Health Insurance Fund (NHIF).

The advanced policy seeks to eradicate the ‘poverty of dignity’ and transition Kenya into an era where nobody is forced to choose between medical bills and other essential needs. He also welcomed the passing into law of the NHIF Amendment Act by Parliament to facilitate the realization of the UHC goal. The Act provides for NHIF to establish a centralized healthcare provider management system to ensure efficient management and payment of claims as well as data collection.

The Government has fully funded the upgrading hospitals across 47 counties as national referral hospitals with specialized state-of-the-art medical equipment. Additionally, it has developed Kenya Essential Medicines List, Essential Medicals Supplies List and Kenya Medical Laboratory List to enhance availability of essential medical supplies as well as guide health facilities on investment of commodities.

REGULATORY & POLICY

EU parliament hands health regulator a stronger mandate to tackle drug shortages



NETHERLANDS – The European Parliament has voted in favor of plans to expand the European Medicines Agency’s (EMA) powers during health crises, including giving the regulator greater oversight over drug shortages.

The move is intended to better equip the EMA to monitor and mitigate shortages of critical medicinal products and medical devices used to address public health emergencies.

“THE MOVE IS INTENDED TO BETTER EQUIP THE EMA TO MONITOR AND MITIGATE SHORTAGES OF CRITICAL MEDICINAL PRODUCTS”

The regulator stated that all parties in the supply chain, including marketing authorization holders, wholesale distributors, and any other relevant healthcare stakeholders, will be more closely involved.

To facilitate data collection, the agency will also set up and manage the European Shortages Monitoring Platform.

Commenting on the news, rapporteur Nicolás González Casares said, “the new regulation makes both the agency and all actors in the supply chain more transparent, involving them more in the process and fostering synergies between EU agencies.” The regulations will come into effect on March 1, 2022.

INVESTMENTS & FUNDING

Investments in India's pharmaceuticals industry up 200% in 2021: survey



INDIA – The Indian pharmaceutical sector saw a 200% increase in foreign direct investment (FDI) in 2020-21, according to a survey.

According to the Economic Survey 2021-22, FDI inflows remained buoyant at Rs 4,413 crore (US\$589 million) between April-September, growing at a rate of 53 percent over the same period in 2020-21. Price competitiveness and high quality were two factors that contributed to Indian pharmaceutical companies becoming dominant players in the global market, notes the report.

However, the report notes that India is still heavily reliant on the importation of bulk drugs used in the manufacture of pharmaceuticals, with the dependence ranging from 80 to 100%. Consequently, a Scheme for Promotion of Bulk Drug Parks and a production linked incentive scheme for bulk drugs have been launched to bridge this gap.

Additionally, a Production Linked Incentive (PLI) scheme for pharmaceuticals with a budget of Rs.15,000 crore (US\$2 billion) and a Rs.3,420 crore (US\$45.7 million) PLI scheme for promoting domestic manufacturing of Medical Devices has been launched as well.

Meanwhile, Amneal Pharmaceuticals, a US-based drug maker is set to make a debut in India's

domestic formulation market, with focus on biologics, complex injectables and specialty drugs. The company plans to hit the Indian market with its first products aimed at addressing the critical care market as early as the first quarter of 2022.

The company's presence in India includes two oral solid dose and two injectable plants in Ahmedabad, as well as a third site acquired through the acquisition of Puniska Healthcare for US\$94 million.

Further, Advent International, a global private equity fund, has announced that it will acquire a controlling stake in Avra Laboratories in a deal valued at US\$100 million.

Avra, founded in 1995 by Dr AV Rama Rao and his family, has one facility in Hyderabad and specializes in contract manufacturing, research, and specialty active pharmaceutical ingredients including advanced intermediates for oncology, ophthalmology, and electronic chemicals, among other therapeutic areas.

Advent's acquisition of Avra will be the private equity firm's fifth investment in the last 12 months, highlighting the firm's interest in the pharmaceutical sector. The acquisition will help Advent International create an API platform that ranks among top five players in India.

MATERNAL HEALTH

Ugandan female legislators seek additional funds for maternal health

UGANDA – Members of Parliament under the Uganda Women Parliamentary Association (UWOPA) have made a call to the Ugandan government to allocate more funds for maternal health.

UWOPA members stated that the health sector budget required more money to combat the increasing rate of maternal mortality in the country. In addition, the legislators urged that the government needed to act fast and prioritize maternal health to save pregnant mothers.

The Members of Parliament suggested that with the reduced Covid-19 cases, the funds previously budgeted to fight the pandemic should be transferred to maternal health, adding that the President and Cabinet should take a stand against maternal deaths as they have done to fight the COVID-19 epidemic.

In other developments, the government of Uganda and Reproductive Health Uganda have agreed to accelerate the implementation of critical reproductive health policies and pledges.

Among the important policies and commitments mentioned are the proposed national health policy for 2018, the national adolescent health policy and the 2016 Universal Periodic Review commitments on Sexual Reproductive Health and Rights.

“ UWOPA STATED THAT THE HEALTH SECTOR BUDGET REQUIRED MORE MONEY TO COMBAT THE INCREASING RATE OF MATERNAL MORTALITY ”

INVESTMENTS & FUNDING

AfDB channels US\$10 million toward cold storage for medicines, food in Africa



COTE D’IVOIRE – The African Development Bank has approved an equity investment of US\$10 million in the ARCH Cold Chain Solutions East

Africa Fund (CCSEAF) to support the development, construction and operation of greenfield cold storage, temperature-controlled solutions and distribution facilities in East Africa.

In partnership with conglomerates in the region, the Fund will develop and operate as many as eight cold chain operations in Kenya, Tanzania, Ethiopia, Uganda, and Rwanda. The investment aligns with other Bank initiatives such as the Covid-19 Response Facility to mitigate the economic and health impacts of the pandemic.

The Fund is expected to be a strategic contributor to backward integration of local producers into regional as well as global markets. Atsuko Toda, the Bank’s Director of Agriculture Finance and Rural Development Department, said “ARCH CCSEAF’s vision to become a regional operator of third-party cold chain logistics services is expected to address the critical issue of post-harvest food loss and food safety hazards in East Africa.”

M&A

Kenyan startup Afya Rekod secures US\$2M to scale up health data for patients

KENYA - Afya Rekod, a Kenyan healthtech startup, has announced US\$2million seed funding led by Mac Venture Capital, a US based seed-stage venture capital firm.

Mac Venture Capital, Next Chymia Consulting among other investors have provided the seed funding for Afya Rekod to scale up its products and expand in other markets in Africa as well as accelerate the launch of its patient portal.

Health data has become one of the most urgent issues for health management globally amid the COVID-19 outbreak and the healthcare problem can be addressed

by innovative private companies like Afya Rekod. Its founder, John Kamara said that the investment would provide patients with resources and tools to store and manage their health data especially for patients with chronic illnesses and their doctors.

“Our mission is to empower patients by giving them access to their health data and to connect with the health ecosystem including hospitals, pharmacies, insurance and beyond,” assured Kamara. Afya Rekod’s key partnerships include The Association of Sisterhoods of Kenya (AOSK) with over 500 hospitals across Kenya, Healthy Mind Foundation to train psychiatrists

in Lagos Nigeria and Alchemy in South Africa to onboard private and public hospitals in Southern Africa.

“ THE INVESTMENT WOULD ENABLE PATIENTS WITH CHRONIC ILLNESSES AND THEIR DOCTORS MANAGE THEIR HEALTH DATA ”

REGULATORY & POLICY

China to tighten the noose on pharma industry monopoly practices



CHINA – The Chinese government has announced that it will strengthen law enforcement to combat monopoly

practices and unfair competition in the pharmaceutical industry.

The action is in response to regulatory guidelines issued in November 2020 to combat monopolies in the active pharmaceutical ingredients (API) industry.

China has long sought to develop its pharmaceutical industry, sometimes through unconventional means and the Ministry of Industry has swiftly swung into action to crackdown on this

illegal practice. The ministry said in a statement that it would “strengthen law enforcement against unfair competition and vigorously investigate unfair competitive acts, such as commercial bribery.”

It will also strengthen anti-monopoly enforcement in the areas of drug shortages and APIs, prepare and adopt antitrust guidelines in the API market, and investigate monopolistic pacts.

COVID-19 pandemic impacted essential health services: WHO



WORLD – The findings of the World Health Organization's (WHO) Global Pulse Survey indicate that health systems in all regions and countries of all income levels were severely impacted by the Covid-19 pandemic.

The WHO notes that disruptions have been reported in all major health areas, including HIV/AIDS, hepatitis, tuberculosis, malaria, neglected tropical diseases, and care for the elderly, potentially having a cascading effect on health and well-being as the crisis progresses. According to the report, major barriers to health service recovery include pre-existing health system issues that have been exacerbated by the pandemic, as well as decreased demand for care.

It has urged countries to address major health system challenges, restore services, and lessen the impact of the COVID-19 pandemic. The survey found that 92 percent of countries reported critical bottlenecks in scaling up access to essential health tools such as diagnostics, therapeutics, vaccines, and personal protective equipment (PPE). According to the survey, the most significant barriers to accessing these tools are health workforce issues.

Meanwhile, the Commonwealth Secretariat and the WHO have signed a Memorandum of Understanding (MoU)

to strengthen collaboration on public health issues of particular concern to Commonwealth member states and governments.

Some of the priority issues include the response to the COVID-19 pandemic, vaccine equity, advancing universal health coverage, and building resilient health systems. The Secretary-General of the Commonwealth, the Rt. Hon. Patricia Scotland QC, and the WHO Director-General, Dr Tedros Adhanom Ghebreyesus, agreed to work together and strengthen the exchange of information on seven priority areas.

The areas include promoting universal health coverage and primary healthcare, healthy environments, and health of vulnerable groups. Others are strengthening global health security, transforming lifelong learning for health impact, building a data partnership, and creating space for innovation and exchange of knowledge were among the areas given priority.

Hon. Scotland added that the MoU demonstrates that both organizations share a vision for cooperation and action on these challenges, and a commitment to creating the conditions for people across the Commonwealth to flourish.

“THE WHO NOTES THAT DISRUPTIONS HAVE BEEN REPORTED IN ALL MAJOR HEALTH AREAS, INCLUDING HIV/AIDS, HEPATITIS, TUBERCULOSIS, MALARIA, NEGLECTED TROPICAL DISEASES”

AstraZeneca unveils new discovery center in Cambridge, UK

As Boehringer Ingelheim also launches state-of-the-art R&D facility in Austria



UNITED KINGDOM – AstraZeneca, a global biopharmaceutical company has unveiled The Discovery Centre, a new facility that will be used to support the company's focus on precision and specialized medicines, as well as to foster industry collaboration.

The new facility, designed to the highest environmental standards, includes advanced robotics, high-throughput screening and AI-driven technology. Furthermore, it will contribute to AZ's focus on the discovery and development of next-generation therapeutics such as nucleotide-based, gene-editing, and cell therapies.

Meanwhile, Boehringer Ingelheim has inaugurated a state-of-the-art biologics facility in Vienna, Austria at a cost of US\$578 million (€500 million). The facility boasts a high degree of digitalization and automation through smart technologies and artificial intelligence (AI) applications. The plant is structured to allow a faster manufacturing handoff from one product to another as well as simultaneous production of various products.

PARTNERSHIP

Manipal Hospitals acquires Vikram Hospital in a move to expand operations in India



INDIA – India’s second largest hospital chain, Manipal Hospitals has acquired 100% stake in a multi-specialty hospital, Vikram hospital in a multimillion-dollar deal worth US\$47.9 million.

The hospital which is working to expand its operation in Eastern India also acquired Columbia Asia Hospitals in April this year for about US\$ 300 million. Manipal hospitals now has ten operational hospitals in Bengaluru city.

Set up in 2009, Vikram Hospital is a 200-bed tertiary care facility located in the central business district and is best known for its clinical expertise in the fields of cardiac and neuro sciences.

Commenting on the deal, Dr. Ranjan Pai, Chairman of Manipal Education and Medical Group (MEMG), said: “This reiterates our commitment to meet the healthcare needs of the city and the region. There are two greenfield hospitals that are currently under construction and once they are complete in the next 24 months, our network of 12 hospitals with over 2,300 beds would be best placed to provide ease of access and comprehensive care to everyone across this fast-growing city.”

With Vikram Hospital in its stable, Manipal Hospitals now has 27 hospitals, more than 7,300 beds, a pool of 4,000 doctors and over 11,000

employees across 14 cities. India has one of the world’s most renowned healthcare systems with most of African countries looking up to India as a chief healthcare service provider. According to India Brand Equity Foundation, Indian healthcare sector is expected to reach US\$193.83 billion by 2022.

Rising income level, greater health awareness, increased precedence of lifestyle diseases and improved access to insurance would be the key contributors to growth. However, the industry has taken a hit during this time when the Southern Asia country is experiencing major surges in Covid numbers. The Manipal Group is also scouting to expand its footprint in eastern India and to further enhance its presence in the existing geographies.

“ ACCORDING TO INDIA BRAND EQUITY FOUNDATION, INDIAN HEALTHCARE SECTOR IS EXPECTED TO REACH US\$193.83 BILLION BY 2022 ”

MALARIA

President Uhuru commends African countries progress in fight against Malaria



KENYA – Kenya’s President Uhuru Kenyatta has applauded African countries for embracing the use of digital tools to strengthen evidence-based accountability and action in the fight against malaria.

Africa has made significant progress in the war against malaria in the last two years, which can be attributed to the success of a four-point program implemented by the African Leaders Malaria Alliance (ALMA).

The four key initiatives of the program constructed by ALMA Chair President Uhuru includes digitization along with scorecard accountability and action plans, multi-sectoral advocacy with action and resource mobilization, regional coordination, and access to life-saving commodities.

At the 35th Assembly of Heads of State and Government of the African Union in Addis Ababa, Ethiopia, President Kenyatta presented ALMA Malaria Progress Report.

“Our countries are implementing national scorecard tools on malaria, reproductive maternal, newborn, adolescent and child health as well as neglected tropical diseases, nutrition and community scorecards,” stated President Kenyatta.

On multi-sectoral advocacy with action and resource mobilization, 23 countries have launched national ‘Zero Malaria Starts with Me Campaigns’ while another 24 are in the process of setting up anti-malaria councils and funds.

He added that last year’s approval of the first malaria vaccine for children under 5 years by the World Health Organization (WHO) was a major boost in the war against the disease.

INVESTMENTS & FUNDING

Morocco's new vaccine manufacturing unit to boost pharmaceutical innovation in Africa

As Kenya to establish its own vaccine manufacturing plant



MOROCCO – Morocco has joined to the race for vaccine manufacturing after King Mohammed VI launched the establishment of the largest vaccine manufacturing plant in Africa to make Covid-19 vaccines and other vaccines.

The industrial unit named SENSYO Pharmatech, situated in the Casablanca-Settat region, is

worth US\$223m and will bolster self-sufficiency in vaccine manufacturing in the African region and beyond. In addition, it is part of Morocco's vision to boost pharmaceutical research, clinical development as well as manufacturing and marketing of biopharmaceutical products.

SENSYO Pharmatech aims to manufacture active substance of more than 20 vaccines and bio-therapeutic products, including three anti-COVID vaccines during 2022-2025, to cover more than 70% of the needs of the Kingdom and more than 60% of Africa's demand. The plant will include three industrial lines whose combined production capacity will reach 116 million units by 2023. It targets to begin production of trial batches by July 30, 2022.

The project is part of a public-private partnership, including Swedish company Recipharm, with a long-term goal to create an African pole of

pharmaceutical and vaccine innovation in the country between 2023-2030.

Further afield, Kenya will soon begin producing its own human vaccines, thanks to the government's Ksh2.5 billion (US\$220 million) investment in a vaccine manufacturing plant in Nairobi.

According to Health CS Mutahi Kagwe, the plant will be installed at the Kenya Medical Supplies Authority (KeMSA) headquarters in Embakasi and managed by the government-backed Kenya Biovax Institute Limited. "We are not just talking about Covid-19 vaccines, we are talking about other vaccines such as those for polio, malaria that we can make in the country," he said.

The CS went on to say that while vaccine manufacturing is not a money-spinner in and of itself, it is necessary for the government to do so, as South Africa and India have done with their government-backed serum institutes.

REGULATORY & POLICY

Africa CDC set to become an autonomous health agency of African Union



ETHIOPIA – African heads of state and government have elevated the Africa Centers for Disease Control and Prevention (Africa CDC) status to an autonomous health agency of the African Union (AU).

The agency was given full powers to operate independently during the closing ceremony of the 35th AU assembly of heads of state and government in Addis Ababa, Ethiopia,

as the health agency celebrates 5 years since its inception.

Africa CDC presently has the legal, institutional and operational freedom to serve as a channel to mobilize financing to build the necessary capabilities and strengthen national health systems across Africa. It can also acquire vital continental assets for disease prevention and control as well as improve regional responsiveness during outbreaks like the COVID-19 pandemic. The agency also trains and builds capacity throughout Africa to improve on the caliber of public health assets and personnel.

The agency was formerly classified within the African Union Commission (AUC), operating under the Commissioner for Social Affairs, thus decisions would typically go through

slower bureaucratic channels.

In its new status, the the agency will be funded by the AU as an independent entity and its chief will be elevated to the position of a Director-General, who will be equitable to a commissioner.

“**AFRICA CDC NOW HAS THE LEGAL, INSTITUTIONAL AND OPERATIONAL FREEDOM TO SERVE AS A CHANNEL TO MOBILIZE FINANCING**”

INVESTMENTS & FUNDING

Pfizer and Merck sign deals allowing manufacture of generic Covid pill in low-income countries



USA – Leading pharmaceutical companies Pfizer and Merck have agreed to produce and distribute their experimental COVID anti-viral drugs in dozens of low- and middle-income countries.

The agreement between the Pfizer and the UN-backed international public

health organization Medical Patent Pool (MPP) would allow manufacturers to manufacture and supply generic versions of the drug in 95 countries without fear of patent infringement. Most of the countries included in the agreement are in Africa and Asia, accounting for approximately 53% of the world's population.

Pfizer's move comes after Merck, another US pharmaceutical company, signed a similar royalty-free agreement with the MPP to allow its antiviral drug, molnupiravir, to be manufactured and sold at a low cost in 105 developing countries.

27 generic drug manufacturers in 11 countries, including Bangladesh, China, Egypt, Vietnam, Kenya, and South Africa, will begin producing Merck's pill soon. Aspen Pharmacare in South Africa, Hikma in the Middle East, Universal Corporation Ltd in Kenya and Beximco in Bangladesh

are among the generic companies that have signed the sublicenses.

Pfizer and Merck's moves to share COVID-19 patents came amid international pressure on pharmaceutical companies to share and transfer technologies to allow the production of generic versions of their COVID-19 vaccines.

COUNTRIES INCLUDED IN THE AGREEMENT ARE IN AFRICA AND ASIA, ACCOUNTING FOR ABOUT 53% OF THE WORLD'S POPULATION.

REGULATORY & POLICY

” Breakthrough” GSK malaria vaccine gets WHO approval for use in children in Africa

AFRICA – The World Health Organization has recommended its first malaria vaccine for children, a breakthrough hailed by the UN agency as a "historic moment."

The approval of the RTS,S/AS01 vaccine, known as Mosquirix, provides a "glimmer of hope" for Africa as it will now be used to protect children from one of the world's oldest and deadliest diseases. RTS,S is the first and only malaria vaccine to be shown in pivotal long-term clinical trials to significantly reduce malaria in children, and it is the result of more than 30 years of research led by GSK in collaboration with PATH and other partners.

Malaria is the leading cause of childhood illness and death in Sub-Saharan Africa, killing over 260,000 children under the age of five each



year. Despite widespread adoption and use of insect-treated nets in many African homes, WHO and its partners have reported a stagnation in progress against the deadly disease in recent years.

Significant reductions in overall hospital admissions, as well as admissions due to malaria or

severe anemia, were also observed. Furthermore, the vaccine reduced the need for blood transfusions, which are needed to treat life-threatening malaria anemia, by 29%.

“This is a historic moment. The long-awaited malaria vaccine for children is a breakthrough for science, child health and malaria control,” said WHO Director-General Dr Tedros Adhanom Ghebreyesus. “Using this vaccine on top of existing tools to prevent malaria could save tens of thousands of young lives each year.”

WHO recommends that the RTS,S malaria vaccine be used for the prevention of malaria in a schedule of 4 doses in children from 5 months of age, while stressing that overcoming distribution hurdles will be critical to the vaccine's success.

M&A

Ghanaian healthtech startup mPharma raises US\$35 million in Series D funding to expand business



GHANA – mPharma, a Ghanaian health tech startup, has raised US\$35 million in a Series D funding round as it seeks to grow its business, while also looking at further digitalization of its business.

The financing includes US\$30 million in equity and US\$5 million in debt from CitiBank, for a total of US\$65

million raised by mPharma so far. JAM Fund, Unbound and Lux Capital, a New York City-based VC firm investing in science and technology ventures, also participated in the round.

“The latest round of funding will be used to build the startup’s data infrastructure and triple its talent pool over the next three years as well as

support expansion plans in existing and new markets,” said mPharma CEO Gregory Rockson. The funding will also be used to launch its e-commerce platform for pharmaceuticals. “We are also investing in other skilled talent like doctors and medical professionals that are critical in the work we do,” further stated Gregory Rockson.

To provide comprehensive services, mPharma recently launched an ecommerce platform – the Mutti Online Pharmacy – that allows its members to purchase pharmaceutical products. It is now one of a few exclusively digital pharmacies with operations in Africa, along with Kenya’s MyDawa.

The startup is currently present in Ghana, Nigeria, Kenya, Zambia, Malawi, Rwanda, and Ethiopia as well as Gabon and serves approximately a million patients per year via over 300 partner pharmacies.

M&A

Nigerian Reliance Health secures US\$40M in funding to expand healthcare services



NIGERIA – Reliance Health, a Lagos and Texas-based digital healthcare provider, has raised US\$40 million series B funding to fuel its healthcare expansion in emerging markets around the world.

The General Atlantic led the series B funding with other participants such as Picus Capital, Tencent Exploration, Ventures, Laerdal Million Lives Fund,

Arvantis Social Foundation among others.

The deal is the first technology investment in Africa by the private equity fund and is meant to improve healthcare quality for millions of patients in Nigeria and abroad.

Reliance Health will use a part of the funding to build new clinic facilities in two Nigerian cities namely Abuja and Port Harcourt.

Moreover, the investment will accelerate the company’s efforts to add new products that complement existing proprietary technology, facilities and partnerships as well as leverage the funds to hire additional top talent.

“Based on frequent usage, Reliance for instance could suggest lifestyle changes if a customer was diagnosed

with diabetes and make hospital referrals if a user spent hours on the line at his last visit to the clinic,” said Femi Kuti, Reliance Health CEO.

The healthtech company plans to expand into new markets with Egypt being top of that list as it eyes other countries before end of year.

“**THE FUNDING IS MEANT TO IMPROVE HEALTHCARE QUALITY FOR MILLIONS OF PATIENTS IN NIGERIA AND ABROAD**”

HEALTHCARE DELIVERY

Haltons pharmacy enters Ethiopian market



ETHIOPIA – Haltons pharmacy, a retail pharmacy chain dispensing prescription and non-prescription pharmaceutical products has opened a branch in Addis Ababa, becoming the latest Kenyan entity to make entry into the neighboring country.

mPharma, a Ghanaian e-health startup, has partnered with Belayab Pharmaceuticals to launch Haltons Pharmacies in Ethiopia through a franchise agreement, making Ethiopia mPharma's sixth African market. This new outlet is one of two, which mPharma and Belayab Pharmaceuticals aim to open in Addis

Ababa this year. mPharma acquired Halton, Kenya's second-largest pharmacy chain, in 2019, taking over control of the 27 operational stores in Kenya. The Ethiopian store is located at Sarbet, a suburb in the capital Addis Ababa.

The new pharmacy in Ethiopia is intended to support expanded growth opportunities locally and, in the region. The opening of Haltons Pharmacies in Ethiopia is part of mPharma's ongoing mission to build an Africa in good health by constantly shaping new health care methods to improve treatment standards for every African.

The entrance of Haltons Pharmacy is expected to give patients a larger selection and convenience in Ethiopia through a consistent list of options at each location. This will help to fill in the gap that has been created by the largely-driven family business Pharmacies in Ethiopia lacking consistency and availability of products throughout the country.

“THE ENTRANCE OF HALTONS PHARMACY WILL GIVE PATIENTS A LARGER SELECTION AND CONVENIENCE IN ETHIOPIA A CONSISTENT LIST OF OPTIONS AT EACH LOCATION”

ARTIFICIAL INTELLIGENCE

Egypt's Alameda Healthcare to acquire robots to enhance precision in surgery



EGYPT – Alameda Healthcare, a leading private healthcare group in Egypt, and British CMR Surgical have signed a Memorandum of Understanding (MoU) that establishes a collaborative partnership that aims to improve access to robotic surgery in Egypt.

The partnership is in line with Alameda's commitment to offer patients access to the Egypt's most advanced medical solutions and bring the latest technology in their hospitals for world class services.

The Healthcare Group will purchase four of CMR Surgical's Versius robots over the next 4 years as part of the agreement with the first set of robots scheduled for installation in March 2022 at As-Salam International Hospital, Maadi.

The installation of next-generation surgical robots will enable surgeons to perform various complex surgeries with minimal incisions and better precision. Patients will also experience less pain after surgery and shall be discharged much faster than traditional open procedures.

As part of the agreement, a training center for robotic surgery will be established to provide surgeons with direct access to robotic surgery training using the latest technologies with the help of world class professionals.

CMR Surgical will provide comprehensive training for surgeons and nursing teams across several specialty departments which will contribute to the development of a tailored medical technology roadmap for Egypt.



The partnership will also facilitate the establishment of a joint governance committee with the ultimate goal of optimizing, expanding and advancing patient-centric care.

Cipla to acquire 32% stake in solar power firm and one-third stake in Clean Max Auriga Power



INDIA – Cipla, one of India's major pharmaceutical companies, has agreed to buy roughly one-third of AMP Energy Green Eleven, in line with the company's commitment to enhance the share of renewable power source in its operation and to comply with regulatory requirement and cement sustainability in its business.

The move is intended to establish a captive solar power project in the Indian state of Maharashtra. Cipla said in a regulatory filing that it has entered



into a shareholder agreement as well as a separate power purchase agreement (PPA) to acquire up to 32.49 percent of AMP Energy Green Eleven on a fully diluted basis.

Captive generation rules generally require key consumers to own at least a 26 percent stake in the renewable venture supplying them with power.

In terms of AMP Energy Green Eleven, the company was founded in November of 2020. It is in the business of generating and supplying solar energy-generated electricity. Some of the key projects have given the

company international exposure.

It has completed projects in Canada, the United States, Japan, Jordan, Australia, and many other countries. It currently provides green power to 45+ high-profile customers across 10+ industries, including pharmaceuticals, automobiles, data centers/information technology, Fast-moving consumer goods, cement, infrastructure, education, and heavy industry.

In other news, Cipla announced in December that it has agreed to acquire a 33% stake in renewable energy firm Clean Max Auriga Power LLP for up to Rs six crores (US\$793,204), in a deal that will see the latter become an associate of Cipla. Clean Max Auriga Power is a special purpose vehicle that manufactures, supplies, and distributes solar, wind, and other renewable energy generation plants

“**THE MOVE IS INTENDED TO ESTABLISH A CAPTIVE SOLAR POWER PROJECT IN THE INDIAN STATE OF MAHARASHTRA**”

WHO sets its eyes on scaling up genomic sequencing in Africa



CONGO – In a bid to enhance global surveillance systems for detecting changes in viruses in real time and improving responses to emerging infectious diseases, the World Health Organization and the Africa Centres for Disease Control and Prevention have collaborated to establish a network of COVID-19 genomic sequencing laboratories in seven African countries.

These countries include the Democratic Republic of the Congo, The Gambia, Kenya, Nigeria, Senegal, South Africa, and Uganda. To date, the WHO and the Africa Centre for Disease Control and Prevention have established a COVID-19 sequencing laboratory network in Africa which has produced over 43,000 sequencing data.

Genome sequencing has the potential to revolutionize public health and transform responses to other major health threats beyond COVID-19. African countries are making efforts to integrate routine genomic sequencing and surveillance into the national response since the beginning of the pandemic.

In the past 20 years, genome sequencing has been used to support public health responses in Africa to HIV, polio, measles, hepatitis B and C, chikungunya, dengue, zika and yellow fever. Experts reckon it has the potential to do much more.



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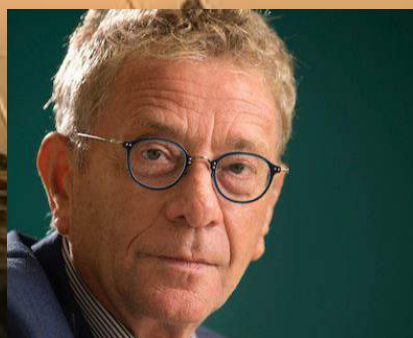
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Roche launches its connected blood glucose monitoring system in Europe



SWITZERLAND – Roche has launched its Cobas Pulse system in select

countries accepting CE mark approval in Europe.

The platform combines the form factor of a blood glucose meter with digital capabilities comparable to that of a smartphone. The hand-held device includes an automated glucose test strip reader, as well as a camera and touchscreen for logging other diagnostic results, all housed in a hardened body that can be disinfected.

It is intended for use with patients of all ages, including newborns and those

in intensive care. Roche plans to seek CE IVDR and FDA clearance for the system in other markets throughout the coming year.



Medtronic's Hugo surgical robot debuts in Europe after regulatory approval



IRELAND – Medtronic's Hugo robotic-assisted surgery (RAS) system has received CE mark approval for use in urological and gynecological procedures. The system will now be available for purchase in Europe.

Hugo RAS is a modular, multi-quadrant platform equipped with three-dimensional (3D) visualization and wristed instruments that is

intended for use in a wide range of surgical procedures. Hugo also has a Touch Surgery Enterprise-enabled cloud-based surgical video recording option.

The platform combines these various features with specialized

support groups centered on the robotics program, service, and training. The device addresses issues such as cost and usage barriers that have slowed the adoption of robotic surgery over the last 20 years.

The latest approval comes after the Hugo RAS system reached several milestones during its global launch, including the first urological and gynecological procedures in India and Latin America.

Following the latest approval, the Hugo robotic-assisted surgery (RAS) system has been used for the first time in Europe to perform robotic prostatectomy, led by Dr. Alexandre Mottrie, head of urology at OLV Hospital in Aalst, Belgium.

“**THE DEVICE ADDRESSES COST AND USAGE BARRIERS THAT HAVE SLOWED THE ADOPTION OF ROBOTIC SURGERY**”

Royal Philips launches at-home ECG system to reduce clinical trials attrition rates

NETHERLANDS – Royal Philips has released a new at-home ECG system for use in decentralized clinical trials.

This new technology is being marketed by the company as a way for clinical trial participants to record ECG data without having to travel to a clinical site or hire an in-home clinician.

Participants in the trial wear a PCA 500 ECG body patch with a 12-lead ECG that can securely transmit data in "near real time" via Philips' cloud-



based data collection and analysis service. The system is now available

in select markets in North America, Europe, and Asia.

Insulet gets FDA approval for tubeless insulin delivery pump



USA – Insulet has received FDA approval for its Omnipod 5 automated

insulin delivery system for people with type 1 diabetes aged six and up.

Omnipod 5 is designed to make glucose management easier than ever before, with no multiple daily injections, tubes, or finger sticks to help simplify life with diabetes. The Omnipod 5 System includes the tubeless Pod with SmartAdjust technology, the Dexcom G6 CGM, and the Omnipod 5 mobile app, which includes an integrated

SmartBolus Calculator.

SmartAdjust receives a Dexcom CGM value and trend every five minutes and predicts where glucose will be 60 minutes in the future. The system then adjusts, decreases, or pauses insulin delivery based on the user's desired and customized glucose target, assisting in the prevention of highs and lows.

Smith+Nephew acquires novel cementless partial knee system

UNITED KINGDOM – Smith+Nephew has acquired Engage Surgical of Orlando, Florida, the owner of the only cementless uni-compartmental (partial) knee system commercially available in the United States for US\$135m.

The acquisition, which is driving Smith+Nephew's Robotics and



“ THE PARTIAL KNEE MARKET IS CURRENTLY WORTH US\$300 MILLION IN THE UNITED STATES AND IS EXPECTED TO GROW BY 4% PER YEAR THROUGH 2029 ”

Real Intelligence strategy, supports the company's growth strategy by transforming its business through innovation and acquisition, while also providing differentiation for its customers.

According to Millennium Research, the partial knee market is currently worth US\$300 million in the United

States and is expected to grow at a faster rate than the total knee market, by 4% per year through 2029. With an increasing proportion of knee procedures performed in ambulatory surgery centers, Engage Surgical's Partial Knee System complements Smith+Nephew's focus on serving the growing outpatient market.

Sysmex America introduces first hematology analyzer for malaria detection



USA – Sysmex America has launched the XN-30 research-only automated

hematology analyzer for malaria detection. The analyzer distinguishes *P. falciparum* from non-falciparum species.

In as little as one minute, the XN-30 RUO can detect parasitemia in an EDTA sample with a sensitivity as low as 20 malaria-infected red blood cells per microliter. The analyzer standardizes detection and enumeration of intracellular malarial parasites using fluorescent stains and

flow-cell technology.

The analyzer is intended to boost the productivity of research labs that currently use manual microscopy for malaria detection or rely on rapid diagnostic tests to screen symptomatic patients. According to Sysmex, minimal training is required to use the system.

Abbott announces first implants of its dual-chamber leadless pacemaker system

KENYA – Abbott has completed the first implants of its dual-chamber leadless pacemaker system in a clinical trial.

The company's Aveir DR leadless pacemakers are implanted directly into the heart and do not require cardiac leads. They regulate heart rate in the same way as traditional pacemakers, but they have fewer lead-related complications. However, due to the difficulty of synchronizing two leadless pacemakers, leadless pacing options have historically been limited to single-chamber devices.

Abbott's Aveir DR is also designed to be retrievable as therapy needs change. It can also provide real-time mapping for physicians to assess therapy delivery and reposition the device before implant during a patient's procedure.

The technology is intended to synchronize the heart rate between chambers and enable true dual-chamber leadless pacing.

FDA clears world's first credit-card-sized personal ECG device

USA – AliveCor has introduced the KardiaMobile Card, a credit-card-sized personal ECG after it received FDA approval in November 2020.

The Bluetooth-enabled technology can detect six types of arrhythmias, including AFIB, Bradycardia, Tachycardia, PVCs, Sinus Rhythm with SVE, and Sinus Rhythm with Wide QRS. It can perform a single-lead ECG in 30 seconds.

The US\$149 card includes a year of KardiaCare, which includes heart health reports, cardiologist ECG reviews, cloud storage, automatic ECG sharing, weight and blood pressure monitoring, and medication tracking

Siemens Healthineers launches enhanced liver fibrosis test CT scan in U.S.



USA – The Enhanced Liver Fibrosis (ELF) test from Siemens Healthineers is now commercially available in the United States for the first time, following FDA de novo marketing authorization in August 2021, and is available through collaborations with Labcorp and Quest Diagnostics.

The ELF test is a routine blood test used to predict cirrhosis and liver-related events in patients with advanced fibrosis (F3 or F4) of nonalcoholic steatohepatitis (NASH). The test generates a score based on a mathematical algorithm that assesses the risk of disease progression.

Clinicians can use the score to understand the likelihood of progression to cirrhosis and other liver-related clinical events and determine the appropriate interventions and lifestyle changes to help prevent further organ damage.

In other news, Siemens Healthineers has received clearance for its new CT device, the first to use photon-counting technology after a major upgrade, with the FDA touting its approval of Siemens new scanner as the field's first major technological advance in nearly a decade.

The device was cleared via the 501(k) premarket pathway, which requires the submission to show that the new technology is as safe

and effective as a legally marketed predicate device.

The Siemens NAEOTOM Alpha diagnostic imaging device uses emerging CT technology that employs photon-counting. The device counts individual X-rays to provide more detailed information and images of a patient. Unlike current systems, which measure the total energy of many X-ray at once, this new diagnostic device counts each individual scan.

The technology transforms X-rays into visible light, which is then detected by a light sensor, into digital electrical signals that are counted and processed into a 3-dimensional image. The CT system then converts these counts or measurements into recorded images that the healthcare provider reads and analyzes using complex software.

“THE TEST GENERATES A SCORE BASED ON A MATHEMATICAL ALGORITHM THAT ASSESSES THE RISK OF DISEASE PROGRESSION.”

Amref names Dr Elizabeth Ekirapa as Chair of Uganda Advisory Council



UGANDA – Amref Health Africa has announced the appointment of Dr Elizabeth Ekirapa as the chair of its

Uganda Advisory Council.

Dr Elizabeth becomes the first woman to head the Advisory Council and she brings to the table an extensive experience in the field of public health and health economy. She is a respected medical doctor with an advanced degree in public health and health economics, besides being a PHD holder in health systems research.

She is currently a senior lecturer in the department of health policy, planning and management at the school of public health in Makerere University. Ekirapa said that she will ensure the organization grows in terms

of the scope of service and address the emerging needs.

“There is a need for Amref to do more to address the health finance needs in the country in order to support efforts that ensure people have the finances they need to access health care and support the government initiatives to improve access to health care,” she argued.

Ekirapa also noted that Amref needs to expand e-health services because the need for its services have increased across the country. Amref Health Africa-Uganda is currently operating in 54 districts.

Dr. Adetifa Ifedayo appointed as new Nigeria CDC Director General

NIGERIA - Dr. Ifedayo Morayo Adetifa has been appointed as the new Director-General of the Nigeria Centre for Disease Control (NCDC) by President Muhammadu Buhari.

He replaces Chikwe Ihekweazu, who has been appointed as the World Health Organization's (WHO) assistant director-general in charge of health emergency intelligence hub in Berlin.

Dr Adetifa Ifedayo is a pediatrician and epidemiologist with nearly two decades of experience in general pediatrics, infectious diseases in children, and infectious disease epidemiology. To date, his research has focused on pediatric HIV/AIDS,

tuberculosis epidemiology, and the epidemiology of vaccine-preventable diseases. He was an Associate Professor of Infectious Diseases Epidemiology at the London School of Hygiene and Tropical Medicine (LSHTM) prior to his appointment.

He has spent the last seven years focusing on vaccine epidemiology research with the overarching goal of generating evidence for vaccine policy in Africa via vaccine impact studies and seroepidemiology. He has also made tremendous contributions to the COVID-19 response as a member of the Kenya SARS-CoV-2 Serology Consortium. Prior to his appointment,



he was a Clinical Epidemiologist at the Medical Research Council Unit in the Gambia.

Bayer appoints GSK's veteran to lead expanding oncology business



GERMANY – Bayer pharmaceuticals has appointed Christine Roth, currently

head of GSK's global oncology therapy area, to head its new oncology business.

Roth has a lot of work ahead of her. Roth will set out to lead the charge in realizing Bayer's blockbuster expectations for prostate cancer drug Nubeqa despite stiff competition from rivals at a company that only plays in a small segment of the oncology market.

As Xarelto faces generic competition

in key markets, Bayer has identified four potential blockbusters to help close the sales gap. Meeting Nubeqa's estimated €1 billion (US\$1.14 billion) in peak sales will be Roth's top priority. The androgen receptor inhibitor was approved by the FDA in mid-2019 for men with non-metastatic castration-resistant prostate cancer.

Ajay Kumar Pal replaces Nerven Bradford as new Cipla CEO



UGANDA - Cipla Quality Chemical Industries Ltd has appointed Ajay Kumar Pal as its new Chief Executive Officer, succeeding Nerven Bradford as from November 1, 2021.

Bradford, who has been CEO

since 2013, retired on September 30, 2021, according to a statement from the publicly traded pharmaceutical company.

The new CEO Kumar has over 15 years of experience in the pharmaceutical industry, spreading across South Africa and India. Kumar joined the company in February 2020 as the chief operating officer. He holds a Master of Business Administration in Management and Leadership from Nelson Mandela University – South Africa and a Bachelor of Pharmacy from the Rajiv Gandhi University of Health Sciences (RGUHS) – India.

An Assurance Pharmacist and now heading the Regulatory Affairs department, Kumar was appointed as the company pharmacist effective

May 2021. Kumar joined the company at a time the drug manufacturing company's share price on the Uganda Securities Exchange was trading at less than half its IPO offer price in 2018.

Cipla recently received a renewal of its WHO Good Manufacturing Practices qualification for a further three years for the fourth time. It also received GMP approval from Zazibona (the grouping of nine Southern African countries) and SAPHRA, the South African regulatory body.

This was followed up with SAPHRA's step to approve Cipla's two ARVs Tenofovir, Emtricitabine, Efavirenz (TEE) and Tenofovir, Lamivudine, Dolutegravir (TLD) for supply to South Africa.

WHO appoints Dr. Ayoade Alakija as Covid-19 special envoy



SWITZERLAND – The World Health Organization has appointed Nigerian Dr. Ayoade Alakija as the global health agency's Special Envoy for the Access to COVID-19 Tools Accelerator (ACT-Accelerator).

Dr Alakija brings a tremendous track record in advocating for equitable access to vaccines, tests and treatments especially for Africa. Alakija will work alongside former Swedish Prime Minister Carl Bildt, WHO's current Special Envoy for ACT-Accelerator.

Dr. Alakija will also provide assistance

to the leaders of the ACT-Accelerator's three product pillars (vaccines, tests, and treatments). In addition, she will consult extensively on the operation of ACT-accelerator, advise the Director General, ACT-Accelerator principals and stakeholders on new issues as well as represent the ACT-accelerator in key national and international fora.

Dr. Alakija joins ACT-Accelerator at a critical juncture in the global response to COVID-19, when the emergence of new variants and missed global coverage targets have left a large proportion of the world's population

unvaccinated, untested and untreated.

Equal access to vaccines, testing, treatments, and personal protective equipment (PPE) remains critical to ending the pandemic's acute phase.

In accepting her new role, Dr. Alakija said: "this moment in time calls for a powerful, inclusive and accountable shift in the way we have thus far responded to COVID-19 and the devastation it has caused and continues to inflict on us."

“ DR. ALAKIJA WILL ASSIST THE LEADERS OF THE ACT-ACCELERATOR'S THREE PRODUCT PILLARS OF VACCINES, TESTS, AND TREATMENTS. ”

EXECUTIVE INTERVIEWS & FEATURES



Penda Health



Association For Laboratory Medicine



Dr. Amit N. Thakker



Field Intelligence

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- ✓ Your Business Essentials
- ✓ Your People & Management
- ✓ Your Products & Services
- ✓ Your Markets
- ✓ Your Achievements
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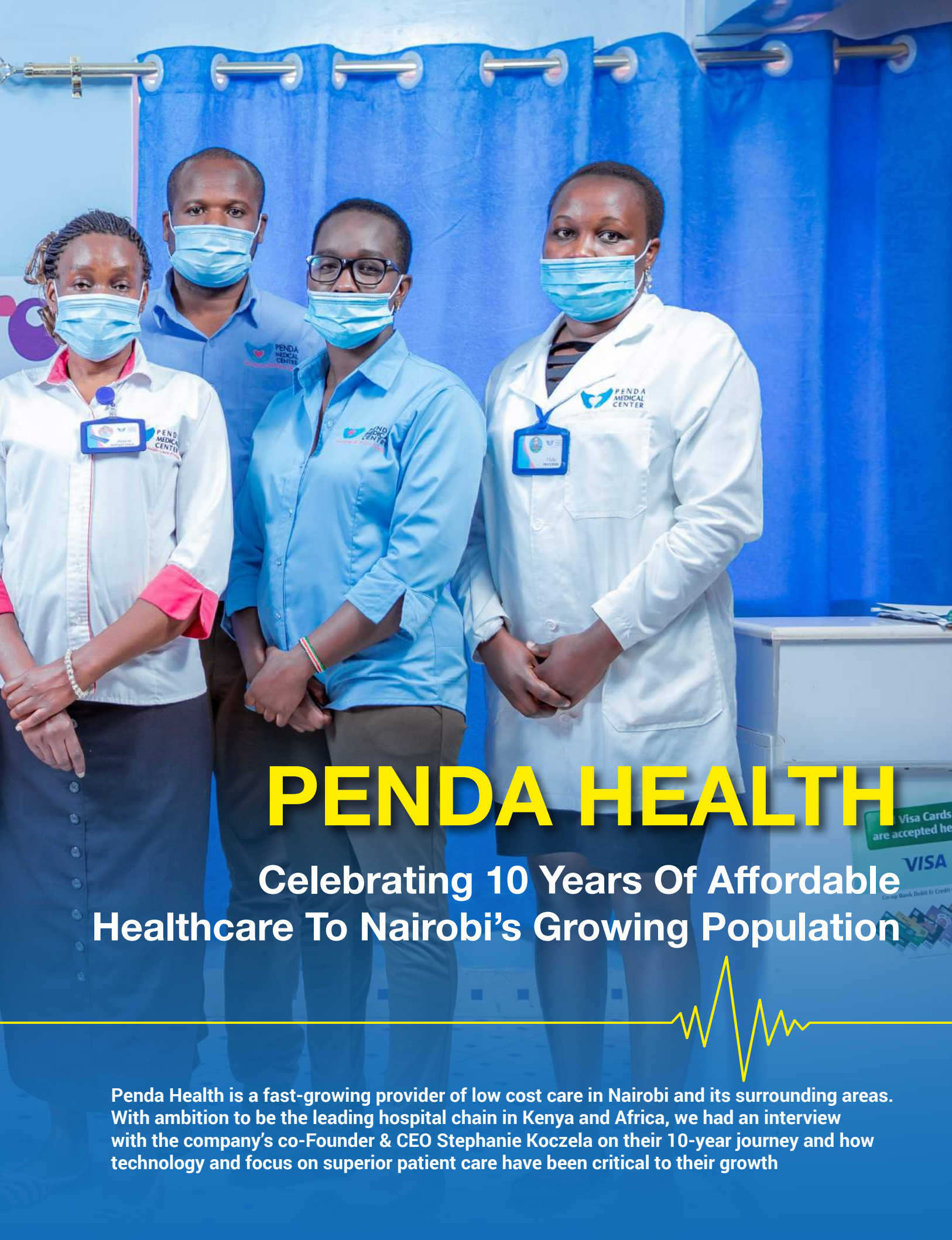
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PENDA HEALTH

Celebrating 10 Years Of Affordable
Healthcare To Nairobi's Growing Population

Penda Health is a fast-growing provider of low cost care in Nairobi and its surrounding areas. With ambition to be the leading hospital chain in Kenya and Africa, we had an interview with the company's co-Founder & CEO Stephanie Koczela on their 10-year journey and how technology and focus on superior patient care have been critical to their growth



STEPHANIE KOCZELA,
CO-FOUNDER & CEO
PENDA HEALTH

The wide smile and easy demeanor of Stephanie Koczela is quite disarming. However, her drive, passion and determination to change the face of healthcare in some of Nairobi's highly populated, low-income areas shines through, as you engage with her and meet her teams at the company's medical centres around Nairobi.

We meet for the first time with Stephanie at her company's head office, located not far from Nyayo National Stadium in Nairobi, and the discussions start in earnest about Penda Health – the firm she helped co-found and has been running since 2012 – and many other issues of the time, such as the raging Covid-19 pandemic.

Attentive and engaging, Stephanie comes out as a leader who is truly passionate about the important role a functional healthcare system can contribute to better the lives of individuals and families in Kenya.

Having spent most of her early years in social impact projects in developing countries and Kenya in particular, Stephanie clearly embodies her company Penda Health's mantra of providing

healthcare that each patient can trust, with love at the core of each team member at the company, beginning with herself.

UNIQUE CONCEPT, LOW COST

Founded in 2012, Penda Health Limited is an award-winning, for-profit social enterprise that provides high-quality primary healthcare services to families who might have little to no access to trustworthy, affordable medical care in urban and peri-urban areas in Nairobi and its surrounding areas. Its first medical centre opened its doors in Kitengela town, some 30 kilometres from Nairobi.

The company completed its latest phase of expansion in late 2021, reaching a physical footprint of 21 medical centres, with plans of adding another 9 centres in 2022 – becoming one of the largest healthcare providers in Kenya – including its new referral centre at the heart of Nairobi city on Kimathi Street.

The healthcare provider closed the 2021 year on a high – serving its one millionth patient since it began operations in Kenya – just a few months



medical and administrative – in delivering clinical quality, ensuring patient-centered care, and using the electronic medical records (EMR) system appropriately in their daily patient activities. Penda aims to always provide consistently accessible, affordable, and high-quality primary healthcare services for the whole family. About 81% of our patients don't have insurance."

Stephanie is proud of her team's achievements, with several awards motivating the team to continue improving, while giving confidence to its customers and investors that they are on the right track in their ambition to be the leading provider of affordable healthcare services in Kenya, using the latest technology.

Penda Health has been awarded as Kenya's top healthcare company to work for 2018 and in 2021 achieved SafeCare Level 4 certification, a globally-recognized and accredited standard by the International Society for Quality in Health Care External Evaluation Association. It also took the first runners up position for the Award of Excellence in Improving Access to Primary care Services Category and second runners up for the Health Facility Innovation Project of the Year Category at the Quality Healthcare Kenyan Awards 2021.

Penda Health Limited is an award-winning, for-profit social enterprise that provides high-quality primary healthcare services to families who might have little to no access to trustworthy, affordable medical care

away from celebrating its 10 year anniversary!

Each of Penda Health's centres is stocked with medical supplies, medicines, laboratory tests and essential equipment and are staffed by well-trained clinical officers, nurses, and clinical coordinators, with physician oversight from the Clinical Quality team.

"The medical centres provide low-cost consultations, diagnostics and treatment, in areas ranging from chronic ailments to acute illness treatment, family planning, antenatal and postnatal services including KEPI vaccines," Stephanie informs the HealthCare Africa team during an interview at the Kimathi Street Centre, which is one of its most advanced. The Centre offers specialist services such as advanced diagnostic, pediatric and gynecology consultations and will soon have X-ray services.

To further build and improve capacity of its staff, Penda has also invested in an innovative medical training centre housed behind one of its medical centres.

"At the medical training centre, our Clinical Quality team trains medical centre staff – both

FILLING THE GAP WITH A SMILE

According to Stephanie, for over 40 million Kenyans, affordable healthcare sometimes means compromising on quality.

"The choice is often between cheap, low-quality care or expensive, high-quality care - leaving most families in a tough choice between





**STEPHANIE KOCZELA,
CO-FOUNDER & CEO
PENDA HEALTH**

getting quality healthcare and spending on other essential areas. Simultaneously, most healthcare providers have not fully taken advantage of medical innovations, meaning that many patients are not benefiting from global advances in healthcare,” she states.

With patients in Nairobi dissatisfied with the care they are receiving, Stephanie says that Penda Health’s low-cost, high-quality model fills a gap that continues to grow, as more Kenyans flock to the city of Nairobi and its environs seeking employment and better lives.

With operational medical centres in Nairobi and its environs with accumulative patient visits of more than 1 million since its opening, Penda Health is one of the largest providers of healthcare in Kenya. Penda Health’s patients are served in friendly environments.

“We are currently in three counties: Kajiado, Kiambu and Nairobi counties and are on schedule to hit more than 400,000 visits this year,” Stephanie informed us during the interview towards the end of 2021. “We are one of the top 10 largest outpatient healthcare providers at this point, with most of our patients paying in cash, while we are also serving quite a growing number of NHIF patients. We are also one of the leading partners to insurance companies.”

Penda provides high-quality, accessible and affordable primary healthcare services by

building on three key strategic areas: the right infrastructure, the right technology and the right model.

In terms of infrastructure, Penda Health’s brick-and-mortar medical centers open every day of the week to walk-in patients and are in densely populated urban areas around Nairobi, such as Githurai, Pipeline, Kasarani, Umoja, Kawangware and Lan’gata, among many others. They are also found in Kitengela and Ngong’.

Technologically, its fully operational electronic medical records system is designed to improve healthcare quality, telemedicine and digital healthcare tools to enable easier access to care and customer service, while its model as a mid-level healthcare provider enables it to utilise the right digital tools and training to provide high quality and low-cost care.

ONE MILLION PATIENTS MILESTONE

Stephanie’s involvement in social work activities in some of Nairobi’s low-income areas such as Mathare exposed her to the need in providing quality and affordable healthcare to meet the needs of communities in Nairobi.

She explains that in many communities, it was quite common to find one clinic being run by a doctor, while families lacked reliable hospitals

**For over
40 million
Kenyans,
affordable
healthcare
sometimes
means
compromising
on quality**

where they could either pay in cash or NHIF card; and if they could afford the treatment in the first place.

“In the focus group meetings that we did with communities around Nairobi before opening Penda Health, lots of people complained that the staff at hospitals available in their areas did not smile at them; nobody took care of them and nobody provided that human touch. At Penda Health, what we are trying to do is to make healthcare that is very friendly and caring, that is very affordable and accessible.”

“When we opened our first medical centre in Kitengela we knew the problem we wanted to solve: patients told us that they wanted a good customer service experience, they wanted to feel very much loved and they wanted to be part of us. The Penda name, which means love in Swahili, originated from one of the community focus group meetings we had organized,” she informs us.

The team at Penda Health is truly proud of its achievements so far – especially on how patients perceive its services. At the company’s headquarters reception area, prominently displayed is a board with the customer satisfaction scores for each of the medical centres for all to see – including visitors.

“If you visit any of our medical centres around Nairobi, it will become clear to you within moments of entering that great patient

experience is just as important to us as providing high-quality medical care,” she enlightens us.

Stephanie believes that to provide excellent care to its customers, it all begins with recruiting the right people. “When we recruit new Penda staff, the first thing we look for is whether they will put patients first. Our branches are filled with clinicians, receptionists, lab techs, pharmacy techs, and cleaners who genuinely care about the patients we serve and often live in the communities where they work. The end result? Our Net Promoter Score, a common customer satisfaction metric, is on average 65%, compared to the Kenya healthcare industry average of -5%.”

“Ample evidence suggests that when patients have a great health care experience, they are more likely to stick with their treatment plan, more likely to feel better faster, and more likely to come back for re-assessment, if things aren’t improving as expected. We see all of these benefits adding up for our patients.”

And the results are all there for all to see. Having served more than 1 million customers in the last nine or so years, and more than 400,000 in the last year alone, the company has built adequate momentum to reach more of its potential customers across Kenya and beyond – and has set itself an ambitious goal of impacting the lives of 10 million patients within the next few years.

“We shall be at 10 million patients before you

The concealed initiatives by Penda have bore fruits, with a 65% customer satisfaction metric, compared to Kenya’s health industry average of -5%





know it! Thank you to every team member who has served patients at Penda. Thank you to all the teams who work behind the scenes and thank you to all the patients who have trusted us with their health! Also, a special shout out to all our sector, government and financing partners. You have been a key part of this journey,” she commented as the news of the milestone came through.

Penda also hires passionate, talented people who can deliver results for the company and then provides continuous training and digital tools to enable them provide quality care to its patients, she adds. Further, the firm is proud that approximately 70% of it’s patients become loyal, returning the next time they get sick, since the company has created a brand patients trust due to the high levels of patient satisfaction.

“We insist on a transparent, friendly, positive

IN NUMBERS

US\$
1M
PENDA'S
LATEST DEAL

SECRETS TO PENDA'S SUCCESS

Stephanie informs HealthCare Africa magazine that Penda Health has been successful because they have key core principles that have guided them, from the very start of their operations, to date.

She elaborates that one of the key success factors has been their focus on providing affordable, quality care, with the average patient visit to any of the centres costing about around US\$15 (KSH 1,500), which include drugs and lab services compared to US\$70 (KSH 7,000) per visit for comparable quality care at other alternatives in Nairobi.

She adds that the adoption of technology from the start has also given the firm the impetus to succeed. “We have invested in the right technology to ensure our patients are getting the highest quality of medical care every time they visit a Penda medical center. Our Clinical Decision Support system is the first of its kind in Africa and among the first in primary care globally.”



patient experience. Everything we do is centered around the patient,” she affirms. “One of the key objectives of Penda Health is to ensure that patients have a positive experience during their time of need and are vulnerable. From when a patient walks into the door, sees a clinician and our follow up calls as they get better ensure that a patient knows that our objective is to see them healthy and treated the best when unwell.”

Expounding further on Penda’s approach to its success, Stephanie adds, “The power of high-quality, tech-enabled, patient-centered primary health care is evident, certainly to the patients themselves, but also to the community, insurers, and the health system as a whole. Penda Health is overcoming difficult problems in executing this vision by combining a people-centered approach with world-class technology.”

She further adds that Penda Health also offers its patients convenience and accessibility. “Primary care must be available to people near where they live and work, at times that are convenient for them. Penda’s expansion over the last few years now places every Nairobiian within one matatu ride of a Penda medical centre. In addition, we are open at least 12 hours a day, 7 days a week, and 6 of our branches are open 24 hours a day. They never close, so that we can be available for those who work odd hours, and for families who experience emergencies overnight. Although you can make an appointment to see a clinician at Penda, while 99% of our patients are walk-ins, and our average total visit time (including waiting time, lab, pharmacy, and

billing) is under one hour,” she explains.

The high scores that each of the medical centres has achieved echo the positive patient experience based on trust that Stephanie and her team has relied on to grow the company over the years, adding that their evidence-based approach to dealing with a huge breadth of medical problems, has also been one of the key success factors.

“Until recently, it was next to impossible to provide guideline-based care for the hundreds of different conditions that are commonly encountered in primary care. We are at a very special moment in the digital health journey as Penda Health to deliver evidence-based recommendations to our clinicians at the point of care across hundreds of common primary care conditions. That clinical decision support, coupled with advanced data analytics, allows us to consistently deliver the highest quality primary care experience to tens of thousands of patients every month – and to refer them to specialists when necessary,” she elucidates.

TECHNOLOGY DRIVES THE BUSINESS

Stephanie discloses that Penda Health provides high-quality, accessible, and affordable primary healthcare services at 20% of the cost of competitors, with the tech-enabled quality improvement loop for its lower-cost mid-level providers (clinical officers) being at the core of its innovation.

The tech-enabled loop is based on point-of-care clinical decision support that enables accurate diagnosis and treatment, integrated into the firm’s electronic medical record (EMR).

Further, Penda Health has a robust physical and e-learning platform for onboarding and training its healthcare workforce in delivering international standards of healthcare, while its real-time automated quality measurement using structured EMR data and advanced analytics is used to understand population-level health metrics that guide decision-making at all levels of the organization.

She adds that data-driven feedback loop facilitates providers to further inform training needs and quality improvement initiatives at the company.

Stephanie reiterates how technology has been critical to their growth and success. “As Penda grew from 2 to 21 more facilities, our EMR standardized and gave us visibility on every aspect of the patient’s interaction. This helped us deliver the same level of service across all

The Covid-19 crisis has certainly been a challenging experience not just for Penda Health but the entire health system. The company has used the pandemic to rejig its list of offerings including offering Covid-19 jobs





the centres,” she informs us. “Our call center and automated WhatsApp interactions provide timely assistance to patients remotely. This has helped us ensure we support patients anytime, anywhere, as we grew.”

Adopting digital tools has enabled the firm to face and adapt to disruptive changes in the healthcare industry. “Our strategy is extremely patient centric and we believe in integrating the cutting edge of technology that will help patient experience and differentiate ourselves. We will continue to leverage that data to make improvements in patient retention, clinical decision making and operational excellence. We are actively incorporating predictive models to reduce patient churn and improve operations.”

She explains that they will further leverage their digital front door to provide a seamless, blended healthcare experience to their patients by utilising tele-medicine, digital payments and digital health records. “Our clinical decision support is well ahead of the curve in primary healthcare in ensuring patient safety and quality. We will continue to build on this effort through rapid iterations.”

Additionally, the team is working at improving service delivery everyday, working towards efficiency and effectiveness in its operations and ensuring that they deliver best quality at the least cost possible, while they review parameters

regularly to ensure that they are getting better.

COVID-19 LESSONS AND STRATEGIES

Stephanie is truly appreciative of the great work and resilience of its staff in the face of challenges that rose during the Covid-19 pandemic. “The Covid-19 crisis has certainly been a challenging experience not just for Penda Health but the entire health system. However, working closely with our stakeholders – patients, staff, donors, investors and Government – we have continued to ensure our patients and staff remain safe by strictly adhering to the laid down health protocols.”

“We strongly value the role of our staff as frontline health workers in the fight against Covid-19. We have provided Personal Protective Equipment (PPEs) to our employees as part of measures to ensure a safe working environment.” She adds that she is proud of the hard work from their procurement team, which ensured that even at the start of the crisis, they were able to access PPEs and other essential supplies, when disrupted supply chains and sudden surge in demand led to severe shortages, not only in Kenya but globally as well.

The company has used the pandemic to rejig its list of offerings to ensure minimal disruption to its services while keeping its patients and staff safe, with new digital health services coming into the fore. “Our new free telemedicine service “Pigia Penda” has enabled us to stay connected to our patients and guide them through access to essential vaccinations, antenatal care and care for Non-Communicable Disease (NCD) care. We have also been running a digital patient engagement and education campaign dubbed #youcancountonPendaHealth to emphasize the importance of taking care of one’s health during the Covid-19 pandemic.”

Stephanie reveals that as the pandemic’s effects became clear, they embarked on re-aligning their organizational structure to become a leaner, cost-effective, stable and sustainable health care provider, a process that affected several staff members as the organization consolidated roles, outsourced some functions and reviewed skill sets required to perform certain functions. “All these measures were aimed at enhancing organizational efficiency, focusing on our core business to achieve higher reach and impact, while responding effectively to the prevailing realities of Covid-19.”

During the pandemic, they worked closely with the Ministry of Health to ensure that five

Our strategy is extremely patient centric and we believe in integrating the cutting edge of technology that will help patient experience and differentiate ourselves

of its centers stayed open for 24 hours and more importantly, past curfew hours, to ensure emergency cases were well handled, even in the middle of the restrictions on movement brought by the pandemic. "For these and other measures, some of our medical centres were awarded SafeCare Level 4 Accreditation validating our deep commitment to patient safety and healthcare quality."

The firm's medical centres have been appointed to offer Covid-19 vaccination, an achievement that Stephanie is extremely proud of, for its impact on the communities they serve - and the recognition that this brings to the health care provider as a critical part of the healthcare delivery system in Kenya. About 1 out of every 50 doses in Nairobi have been given at a Penda medical centre.

OPPORTUNITIES, TRENDS AND THE FUTURE

Stephanie believes that there are more opportunities to grow the company in Kenya and even into Africa in future and therefore they are ready to partner with like-minded partners to deliver on their ambitious goals.

The firm is fundraising investment 1 to invest in its technology strategy for scale and then to begin to expand to other parts of Kenya, with plans to set up up three more branches in Nairobi and build five others in the Coastal, Central, Eastern and Rift regions, bringing to 30 the total number of outlets by the end of 2022.

"We are an organization that really believes in trying to reach all of Africa. Today we are in Kenya - we chose Nairobi to be our starting point, that's my home and it's a place I really love - but in future, we would love to go all over Africa. We are always looking for a connecting partner to help

us in our growth."

For better impact, Stephanie advises that she would like to see more affordable healthcare insurance options in Kenya, adding that the insurance sector and healthcare providers must work hand in hand to do so.

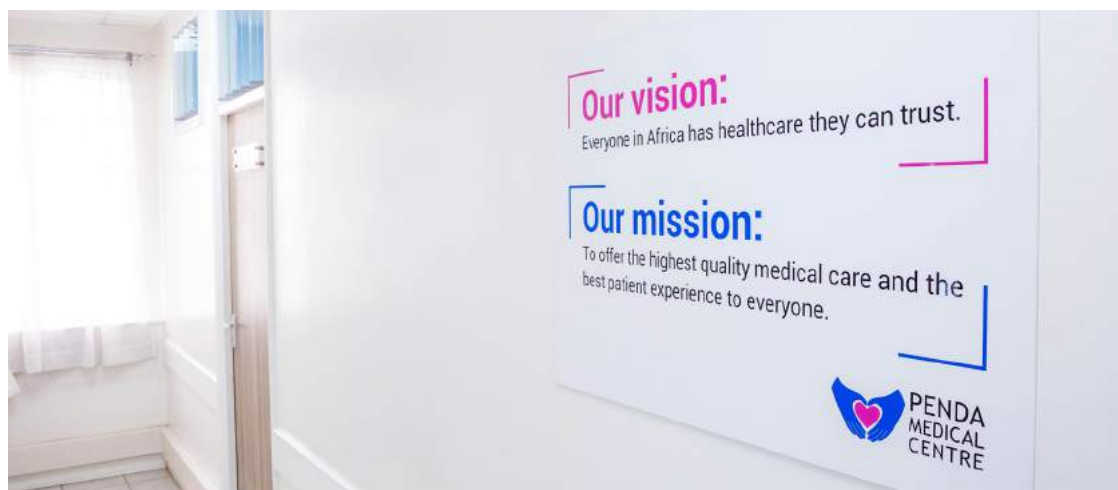
"If one sector works and the other one doesn't, the healthcare sector will not achieve its goal of care for the health of the citizens. The insurance sector is critical to patients' ability to access quality care. With economic stress in the country today, it is good to see insurance providers creating more affordable health insurance options. We work with several innovative insurance providers in the sector to create sustainable, affordable options."

The healthcare provider has recently signed a partnership with leading insurance provider Britam that will deliver maternal tele-medicine to its customers by providing medical consultation and wellness support for free from their homes.

She adds that out of Covid-19 pandemic, the adoption of healthcare technology is booming as well as the personalization of healthcare will continue to increase in the future. However, as much as there is a lot of growth in digital trends, she argues that primary health must be strengthened by the government. "Primary healthcare is the frontline of the health sector - making sure that babies are getting immunized, making sure that mums have better pregnancy experiences, etc."

As Penda Health seeks more partnership and growth opportunities, we look forward to celebrating the 10 million patient milestone soon and to another 10 years of impact, not only in Kenya and Africa as well!! **HCA**

We are an organization that really believes in trying to reach all of Africa. Today we are in Kenya but in future, but we would love to go all over Africa. We are always looking for a connecting partner to help us in our growth





The background of the image shows a stage with a large projection screen at the top displaying the ASLM 2016 logo. The logo consists of the letters 'ASLM' in a large, bold, orange font, with '2016' in a smaller, green font to its right. Below 'ASLM' is the text 'AFRICAN SOCIETY FOR LABORATORY MEDICINE' in a smaller, white font. The stage is dimly lit, with a blue light source visible in the background. Two people are seated on the stage, but they are out of focus. A yellow ECG line graphic is overlaid on the bottom right of the image.

ASLM 2016
AFRICAN SOCIETY FOR LABORATORY MEDICINE

ASSOCIATION FOR LABORATORY MEDICINE

Building Africa's Laboratory Diagnostics Capacity For The Next Pandemic

The African Society for Laboratory Medicine is a pan-African organization tasked with improving the clinical laboratory capacity in Africa is celebrating 10 years since its formation. In this discussion with the CEO Nqobile, Ndlovu we talk about ASLM's journey since its formation and future opportunities and challenges in clinical laboratory capability in Africa



With the Covid-19 pandemic hitting the headlines, the first major concern was how African countries could test its population for the Covid-19 virus

The yawning and overwhelming need for and importance of high-quality, world-class laboratory testing capability and capacity in Africa has never faced greater scrutiny than during the current Covid-19 pandemic. Adding into the mix is the sporadic outbreaks of Ebola across several central and western African countries and the long list of food-borne, communicable and lifestyle diseases that continue to weigh heavily on Africa.

With the Covid-19 pandemic hitting the headlines as 2020 unraveled, the first major concern was how African countries could test its population for the Covid-19 virus efficiently, accurately and fast, to enable countries to track the progress of the pandemic in local populations, and to enable trade and travel to continue – despite the lockdowns and travel restrictions.

The African Society for Laboratory Medicine (ASLM) is a pan-African membership organization that is tasked with improving the capacity and quality of clinical laboratory testing in Africa. With its head office in Addis Ababa, Ethiopia and a new office in South Africa, the

Society is celebrating 10 years since its inception in 2011.

Its founding followed several initiatives by major stakeholders in Africa to have a common strategy on laboratory testing capability across Africa, including in 1998 when the World Health Organisation (WHO) Regional Committee for Africa passed a resolution urging member states to evaluate the laboratory component of disease control programs as the first step towards strengthening disease surveillance in Africa.

Further, the 58th session of the Committee in Yaounde, Cameroon in 2008 re-affirmed the regional commitment to strengthening laboratory capacity in the continent. The Maputo declaration in 2008 and the ASLM-Ministerial call for action of December 2012 added the needed impetus and fuel to birth and grow ASLM to what it is today.

LEADING AFRICA'S TRANSFORMATION

Leading the charge at ASLM is CEO Nqobile Ndlovu, a Zimbabwean national whose role is to work together with the Board of Directors and other partners including Africa CDC to chart the path forward for the organization.



Nqobile joined ASLM in 2013 as a Program Manager, and over the years moved up the chain into the Program Coordinator role, then the Project Lead. He later became the Acting CEO mid 2018, becoming the substantive CEO in 2020.

With a history of working with the ASLM even before its inception in 2011 and having been involved also in its conceptualization as the Laboratory Coordinator at the African Field Epidemiology Network, the CEO is well versed with the role and the future direction of ASLM in Africa.

He reveals that it is at the Kampala declaration in 2011 that the idea of the creation of ASLM was mooted as the body to represent and be the voice to improve the state of medical laboratories in Africa.

Talking of the last 10 years since its inception, Nqobile says that the status of medical laboratories is better than they were 10 years ago, but that lots more work needs to be done – and that the importance of ASLM continues to grow every day.

“Laboratory testing is one of the most neglected areas in healthcare in Africa. Many

people prefer just treating patients or managing conditions without really taking a sample for testing in the lab. That kind of approach has heavy consequences because you are managing conditions that require the doctor to know exactly what he/she is dealing with and without proper diagnosis, you may end up getting even sicker and potentially lose your life.”

“If we don’t really build our laboratories services, it is going to be very difficult to achieve Universal Health Coverage (UHC). Right now, if you look at the issues of Covid-19, testing is a critical issue, even as we have got vaccination being rolled out across Africa, there are areas where vaccination has not yet been successfully implemented and we are relying on testing to identify infected people for isolation and treatment.”

“As a result of the pandemic, we are seeing a growing need for laboratory services because of all these challenges. There are several issues that we are observing during this crisis including that of unskilled workforce in Africa and challenges with coordinating laboratory services so that they can serve the local populations that need these vital testing services. The third issue is that of insufficient funding - laboratory services have been neglected and therefore not much funding has been put into the sector. Further, there are other competing health needs, and every government has to prioritize its spending areas and laboratory services have not been at the forefront of healthcare budgets in many countries in Africa.”

He says that despite the progress made, these are some of the issues that were and still bedevil the sector.

Laboratory testing is one of the most neglected areas in healthcare in Africa. Many people prefer just treating patients or managing conditions without really taking a sample for testing in the lab





ASLM has achieved great strides including improving the laboratory networks, workforce and quality of laboratory services, while boosting data and communication and contributing to better regulations in the sector in Africa

“ASLM was established to be the voice that brings together the community of laboratory experts and other healthcare workers so that we can improve the state of laboratory services, and in so doing, increase patient access to high quality laboratory testing across the continent,” the CEO states.

PARTNERS ADD VALUE TO ASLM

Nqobile enthuses that the idea of setting up ASLM resonated with many different stakeholders, with many international, regional, and local partners joining hands together to get the Society off the ground. When ASLM was launched, every organization in the health space lauded the need to set up the body, including laboratories across the continent.

He applauds the work and financial and technical support from Africa Centres for Disease Control and Prevention (ACDC), the US Centers of Disease Control & Prevention (CDC), WHO Regional Office for Africa, UNITAID, Global Affairs Canada, Fleming Fund and many others.

“I want to acknowledge all the international and regional partners, and even individual health workers who have been great partners to ASLM. We don’t want to take all the credit because their contributions, whether financial, technical and other support has contributed immensely to what we have achieved in the last 10 years.”

“They trusted in us, they have been patient

with us, and they have worked with us. The collaborations we have had, even within the ministries of health in many Africa countries, has made the ASLM brand name to be recognized in the laboratory systems across Africa and beyond”

ASLM MAKES ITS MARK

As ASLM marks its 10-year anniversary, the CEO is proud of the milestones and the achievements the Society has made, especially in advancing its core mandates in the laboratory medicine



profession and associated networks in Africa.

Chief to these achievements has been its delivery on the five strategic pillars, which includes improving the laboratory networks, workforce and quality of laboratory services, while boosting data and communication and contributing to better regulations in the sector in Africa.

“Our vision as ASLM is for a healthier Africa through access to quality laboratory services for all, and our mission statement is improving clinical and public health outcomes in Africa by enhancing professional laboratory practice, science and networks, says the CEO. “ASLM exists to build laboratory capacity across the continent. We have 5 strategic pillars and number one, and two priorities is around building laboratory networks and laboratory workforce in Africa.”

He informs us that in terms of the workforce, the ASLM has over the last 10 years contributed a lot in enhancing in-service training for laboratory workers to improve on their confidence and competence. These training efforts over the years eventually culminated to the launch the ASLM Academy in March 2020 “ASLM has been a very strong pillar in developing training programs, that have been accepted regionally and at the country level. We work with ministries of health and implement our programs through these ministries since we want these programs to be owned and driven by the ministries of health in the countries where we work.”

The ASLM Academy is a platform where medical laboratory professionals from Africa and across the globe can access online, face-to-



face training and information packages that can be used towards continuous professional development. It focuses on delivering practical, problem-solving learning packages that support the advancement of knowledge and skills in laboratory medicine, assisting in recognising the value of various in-service trainings for individual career development.

The other key priority training area for the Society has been improving quality management systems, with a focus on the people who are working in the laboratories to ensure better quality results of testing. “How to ensure that when a patient visits a hospital and the doctor receive the results from the lab that they can be confident that this result is accurate and reliable, and the doctor can act on the result?” he poses.

With more than 10,000 members across Africa and beyond, ASLM has conducted dozens of in-service trainings together with its partners, with more than 200 members participating in its laboratory system community of practice. It has also offered several fellowship programs in HIV/AIDS and anti-microbial resistance (AMR).

Significant progress has been further made in enhancing the capacity of laboratory managers and laboratories in Africa.

For example, ASLM is leading the implementation of a program called Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA) which was established in 2009 by the World Health Organization’s Regional Office for Africa as a framework for improving the quality of public health laboratories in developing countries.

ASLM will be soon rolling out a training program called LABNET LEAD that is aimed at strengthening leadership capacity for managing

IN NUMBERS

35

NUMBER OF
COUNTRIES
ASLM
OPERATES



laboratory networks. ASLM is also supporting another sister program called Strengthening Laboratory Management Toward Accreditation (SLMTA).

Nqobile explains that SLMTA is a task-based training and mentoring tool kit provided to laboratory personnel in a multi-workshop implementation model, with a framework that defines the tasks a laboratory manager must perform in order to deliver quality laboratory services that support optimal patient care.

“SLMTA empowers laboratory managers to initiate immediate laboratory improvement measures, even without additional resources and its training activities are designed to enable laboratory managers to accomplish tasks using tools and job aides to enhance their management routines.” It is implemented by laboratory personnel through work plans that prepare and support laboratory quality improvement.”

The SLIPTA program is a framework of auditing that checks and monitors the improvement process in a laboratory facility. The audit identifies gaps, non-conformities and provides recommendations for corrective actions and is developed in line with the ISO 15189:2007 Standards and the 12 Quality System Essentials of the CLSI Laboratory Quality Management System Guidelines.

Through standardised processes, SLIPTA measures and evaluates the progress of laboratories towards international accreditation and awards a certificate of recognition with 0-5 star ratings, enabling laboratories to develop their quality management systems in order to produce timely, reliable and accurate laboratory results.

These programs are geared towards establishing systems that ensure quality of the results and have been adopted by the ministries of health to improve their laboratories



The CEO reveals that since the launch of this program the number of ASLM certified laboratories in Africa has increased to 633 in 2019, with the proportion of laboratories achieving international accreditation outside South Africa increasing. “These programs are geared towards establishing systems that ensure quality of the results and have been adopted by the ministries of health to improve their laboratories. We then followed up on these laboratories by auditing and certifying them.”

Across Africa, there are currently 23 SLIPTA participating countries and more countries are adopting the program. “As we speak right now, we have over 600 laboratories across the continent that we have certified; although we know there are more labs that have undergone this process because countries took ownership and ran away with the program.”

MORE WINS AND RESOURCES

“If you look at our last pillar, which is knowledge and communication, ASLM has created a laboratory community of practice (CoP), a peer-to-peer learning platform. Through these CoPs, we are bringing all the individuals across the continent to learn from one another, institutions to learn from one another, and even programs to learn from one another.”





Known as LabCoP, the platform fosters knowledge exchange and joint learning by linking together country teams and global experts and sharing the knowledge and best practices on laboratory systems strengthening amongst ministries of health in Africa.

LabCoP has grown beyond its initial focus on viral load testing and now covers waste management, monitoring & evaluation, HIV, tuberculosis, COVID-19, other essential testing services, and the potential of testing several diseases through single platforms.

Among other goals, LabCoP aims to enable laboratories meet the UNAIDS 95-95-95 treatment targets via South-South learning amongst laboratorians, clinicians, policymakers, patients and communities with the goal of strengthening laboratory systems to improve health outcomes.

Activities including webinars and teleconferences using the ECHO model with interactive case-based learning and short didactics to facilitate knowledge exchange and joint learning, form the core of the platform.

These forums enable countries to come together and present their success stories and turn them into a recipe or a formula that give other countries the knowledge on how to implement similar activities in their own settings

to achieve success.

“Over the last 10 years, we have had more than 30,000 connections that brought different people together - not only laboratory workers but also clinicians because we understand that the laboratory cannot operate in isolation. We also brought in social scientists since they deal with the community - our programs must connect to the community in which we operate. We are very proud that over the last 10 years we have brought the laboratory community together in Africa through ASLM.”

The connections and knowledge sharing by ASLM members is also complemented by the bi-annual ASLM conferences, which have taken place since 2012 and is attended by over 1,500 delegates every year. The next edition takes place mid-November this year, virtually.

“These are unique conferences - the first time the ASLM Conference was held, it opened a huge platform for the laboratory community to come together and share their achievements and share the lessons that they are learning. It has also become the platform of exchanging experiences and challenges. We have a feeling that this year’s virtual conference will enable a lot of people attend not only from Africa, but also from the US, Europe, UK and Asia.”

“This year our 5th biennial international conference will be focusing on “Responding to outbreaks through resilient laboratory systems: Lessons learnt from the COVID-19 pandemic”. This is a timely discussion given the COVID-19 pandemic and we aim to address several key issues throughout the conference, including outbreak response, laboratory response and lessons learnt and ownership, partnership and innovation.

The other key achievement in building networks by ASLM its LabMap initiative, which assists countries with GIS localization of their laboratory capacity to better manage their network and optimization their testing services. Utilizing the LabMap data improves functionality of national and regional laboratory networks by mutualising existing resources, increases diagnostic testing capacity and surveillance coverage of laboratory networks and helps prepare the region for and respond to disease outbreaks, such as the current Covid-19 pandemic.

Further, ASLM’s Diagnostic Evidence Hub is a knowledge platform that provides national reference laboratories, national regulatory authorities and diagnostics stakeholders with

LabCoP has grown beyond its initial focus on viral load testing and now covers waste management, monitoring & evaluation, HIV, tuberculosis, COVID-19 and other essential testing services



key information from published studies on the technical performance of new in vitro diagnostic products. It enables ASLM member organisations access to publicly available technical data in order to inform decision-making and support in-country registration and adoption of new, impactful, and quality-assured diagnostic products.

ASLM is a member of the Integrated Diagnostics Consortium which focuses on enabling the deployment of a robust, efficiently utilized testing capacity and a healthy and secure market with competitive supply, in a global market for diagnostics that does not meet the needs of the millions of people living with HIV, TB, HPV, Hepatitis and other diseases. “Current testing coverage is low, yet demand continues to grow sharply in the face of limited resources, highlighting the need for innovative approaches.”

And lastly, ASLM’s Mapping Antimicrobial Resistance and Antimicrobial Use Partnership (MAAP) is a multi-organization and multi-national collaboration that seeks to establish a system for the collection, storage, and analysis of antimicrobial resistance (AMR) and antimicrobial use (AMU) data across Africa.

REGIONAL EXPANSION ON THE CARDS

From its head office in Ethiopia and its new office in South Africa, Nqobile says that the Society manages its activities across the continent, but

the sheer size of the continent and its varied regulatory and infrastructure holds them back in delivering on their mandate in every country.

“Currently, we have intra-country activities in 35 countries out of 54; we are yet to expand to the northern part of Africa. We have worked in different countries in the other regions of the continent; of course, the situation is different in every country and the strategies applied in each are different. When you are looking at implementing programs, the pace at which you will move, will vary from region to region as well.”

“This is one of the reasons why we are expanding our footprint to have our presence in all these different regions, so that we understand the culture and the local context so that when we move in with our programs, we don’t face a lot of challenges. We are beginning to have an approach where we want to establish our presence and I think we are already doing that, in the sense that in all these different regions, we have our staff based in these countries.

He further elucidates that there are new opportunities brought by Covid-19 and vital lessons unearthed by the Society during the past nearly 2 years of the pandemic.

“When Covid-19 pandemic began in December 2019, as the Society we created a virtual platform in early 2020 to disseminate information updates by inviting experts with the right knowledge to disseminate this information to our members. I

Current testing coverage is low, yet demand continues to grow sharply in the face of limited resources, highlighting the need for innovative approaches

am proud to say that ASLM really played a key role in making sure that the community stays abreast on the developments, in-terms of testing protocols, the Covid-19 itself and emerging issues as it rolled on into the rest of the year to date. The platform had a huge attendance as everyone was keen to understand what was happening around the disease.”

The pandemic, he adds, has provided the opportunity to ASLM to demonstrate its role as the leading voice to the laboratory medicine fraternity in the continent.

There are more positive outcomes from the pandemic. “For the first time, laboratory services have received huge attention, not only within Africa but internationally; everyone has been talking about testing, testing, testing. The pandemic provided the opportunity to expand and decentralize testing from the huge, big laboratories to district or local settings. On the innovation side of things, it brought the opportunity to develop rapid testing kits that took 10-30 minutes. Covid-19 has really brought the laboratories to the forefront and the resources and infrastructure that have been made available for laboratory services because of the pandemic has provided the opportunity for the laboratories to really become more visible and more prepared

for the next pandemic,” he states.

THE FUTURE IS BRIGHT

With its work cut out and ASLM having its plans to grow further, the future can only be brighter for the Society and the laboratory medicine sector in Africa

“Looking into the next 5 to 10 years, our inspiration is to have more country driven approaches and solutions; that’s where we want to put our energies because if we do that, we know there is going to be continuity and there’s going to be sustainability. For the last 10 years or so, which has been beautiful, all these brilliant ideas and solutions have been coming from outside the continent but now that we have established these peer-to-peer learning platforms, local knowledge, south to south collaborations etc., we want to harness that as ASLM and begin to see these solutions being expanded and scaled up and owned by African countries.”

“We have seen over the years that some of these solutions are already here. As ASLM, we would like to guide countries to utilise solutions that they have come up with to growth them and expand them further, to move laboratory medicines in Africa to another level.” **HCA**

For the last 10 years, all brilliant ideas and solutions have been coming from outside Africa but now with established peer-to-peer learning platforms, local knowledge, etc., we will harness that and begin to see these solutions being localised





DR. AMIT N. THAKKER



Chairman, Africa
Healthcare Federation

Dr. Amit N. Thakker is a synonymous with the growth of the private healthcare sector in Kenya, Eastern Africa and Africa at large. From co-founding Avenue Healthcare in 1996, to becoming the first Chairman of the Kenya Healthcare Federation in 2015 and later helping set up the East Africa Healthcare Federation and lastly, the Africa Healthcare Federation, Dr. Amit's influence and impact on the healthcare industry in Africa is immense. In this interview, HealthCare Africa magazine discusses with him some of the opportunities, challenges and trends in the industry, as Africa continues to face challenges brought by the Covid-19 pandemic. Below are excerpts of the interview.

HCA: Tell us about yourself, for those who may not know you.

DR. AMIT: I am the Executive Chairman of Africa Health Business and the current President of the Africa Healthcare Federation whose interest is to promote the role of the private sector to strengthen health systems across Africa. I have been doing this for the last 26 years.

My early days in the private healthcare sector began when I founded Avenue Healthcare, which is well known for their clinics and hospitals across Kenya. I worked across about 14 countries in Africa in the healthcare space, before founding Africa Health Business in 2015.

HCA: Let's focus on Covid-19 first, because I think that's what everyone would want to hear about now. What is the opportunity around the pandemic in Africa, for the private sector, governments and other players in the healthcare sector in Africa?

DR. AMIT: In the short term, the pandemic has affected the economies in Africa quite badly, with tourism, accommodation and hospitality the worst hit, not only in Africa but globally. In the medium and long-term, we see opportunities in manufacturing, we see the opportunities in improved healthcare services, and we see opportunities in digital health systems.

Immediately, as Covid hit Africa, supply chains were shut down and all those imports that we relied upon in the healthcare sector became very difficult to acquire. For example, in Kenya and the broader region, we needed PPEs, but the PPEs supply was constrained as they were all coming from outside the region.

We therefore needed our governments and manufacturers to reposition themselves

to manufacture the PPEs – and the result is that we are now making all the PPEs we use in both the public and private sectors! Before the pandemic hit, we had only one manufacturer that was making masks in Kenya and now we have over 35 factories making masks. When it comes to medications and pharmaceutical supplies, we have realized again that the more we make these ourselves, the less we shall rely on outside imports. Out of this crisis, all the countries in Africa are trying to find how they can be more self-sufficient.

Countries such as Kenya, Rwanda, South Africa, Egypt, Senegal and Morocco are at the forefront of soon getting into vaccine manufacturing, even if it means bringing the vaccines for finishing and bottling in the country. The next step will be how to handle intellectual property (IP) issues to start making the vaccines locally, for example the deal between Johnson & Johnson that is making the vaccines in South Africa currently.

HCA: How does Africa get to manufacturing vaccines in the continent soon?

DR. AMIT: Vaccine manufacturing is very complex – it's so complex that the entire production system needs to be very intensely managed, it takes a lot of intellectual property, the mechanism of putting it together is complex and the need for extreme sterility plus all the systems – it is not easy, like manufacturing tablets. Therefore, we can't just say 'why can't you make the vaccines?'

The gap is the the kind of conditions you need for a factory that makes vaccines to be extremely high level and the kind of skills and the technical production aspects we need are very high level - none of the pharmaceutical factories here in Kenya right now can take the task, without significant investment.

HCA: How can Africa take advantage of the opportunities brought by Covid-19 to improve investments in the healthcare and pharmaceutical sector?

DR. AMIT: You have raised a good question and that question supports the plans by the Africa Union (AU), which is in the process of establishing the Africa Medicine Agency (AMA).

AMA aims to harmonize all the medications across the continent so that if you register a product in one country, it can be used in another country. This will reduce the cost of doing business in the region – a huge opportunity for

Countries such as Kenya, Rwanda, South Africa, Egypt, Senegal and Morocco are at the forefront of soon getting into vaccine manufacturing, even if it means bringing the vaccines for finishing and bottling in the country

AMA aims to harmonize all the medications across the continent so that if you register a product in one country, it can be used in another country, thus reducing the cost of doing business in the region



many distributors and manufacturers. Secondly, it will allow the free movement of medical goods across borders without irregular taxes.

This agency will allow for greater investments in manufacturing of medications and distribution of medications in Africa - the kind of initiatives we need to put in place so there is policy harmonization and standardization of charges when you are moving goods across borders to improve local manufacturing.

HCA: When do you think this initiative could be achieved?

DR. AMIT: The Treaty for the Establishment of the AMA entered into force as of the 5th of November 2021, thirty days after the deposit of the 15th instrument of ratification, on the 5th of October 2021, by the Republic of Cameroon

at the African Union Commission. The African Union Commission continues to encourage all its member states to sign and ratify the treaty, in the interest of public health, safety and security. The Commission shall proceed towards the establishment and full operationalization of the AMA at the earliest.

Passing the AMA treaty will have a multiplier effect - then Africa will become the continent of hope for investors. Many investors think that the economy in each country in Africa is too small while they have other bigger markets to place their investments. Initiatives such as AMA treaty and the African Free Continental Free Trade Agreement (AfCFTA) will strengthen regional economic communities like EAC, ECOWAS and SADC, giving investors the platform to invest larger funds in the healthcare sector and other

sectors.

HCA: Which African countries appear to you as exciting new frontiers for investors in the healthcare sector?

DR. AMIT: There are lots of hotspots for investments in the healthcare space across the continent. In west Africa, we know that Ivory Coast is leading, so is Nigeria and Ghana. If you look at southern Africa, we have seen the rise of Mauritius; we have seen also good attraction to Botswana.

In East Africa, the two leading countries are Kenya and Rwanda - Rwanda really shines because they have reduced the cost of doing business. In the northern Africa region, Morocco really shines; it has opened interesting public-private partnership models that can be replicated to increase healthcare investments in Africa.

HCA: What is the opportunity for PPP models in Africa?

DR. AMIT: The PPP model has been trialed across Africa in the last 10 years but there has been a trust barrier between public and private sectors in healthcare - they thought they were opposing forces. Before, the private sector was seen very suspiciously; that they were profit oriented while the public sector was thought of as corrupt and ineffective.

However, through public private dialogue, we have managed to bring leaders together from the public and private sector with the aim of improving healthcare on the continent. Over the last 10 to 15 years, I think the trust between the private and public health sector players has increased - becoming the bedrock on which we must build PPP initiatives - without that trust, any PPP initiatives in healthcare will crumble.

That lack of trust previously, means we don't have many examples of PPPs on the continent - the public sector has done what it best can with government and donor money, while the private sector has done what it best can through market approach.

The way PPPs can work is, for example, the government can have equity together with private sector players to establish a plant that produces vaccines locally. The government can also provide free land or come up with taxation incentives that will make the venture much more attractive to provide jobs and boost local manufacturing and economies.

My rule of thumb is that: if it's economically viable and socially necessary, let the private sector

do it on its own; if it's economically unviable but socially necessary, let the public sector deal with it; and if there is a mix in between, that's where PPPs come in.

HCA: We see more private sector investments in healthcare in Africa. What is the opportunity for further investments in the region?

DR. AMIT: The latest statistics show that there has been a year-on-year increase of close to 60-70% more funding in the private healthcare sector in Africa through private equity. I therefore see more funding, more players in the market, more transactions in hospitals, digital and the manufacturing space.

Leading private equity players have seen good opportunities in the same countries that I mentioned earlier, so they are scouting for either start-up businesses, greenfield or brownfield opportunities. There is a lot of funding available; I have also seen many pharmaceutical chains coming into Africa. We have also seen groups being formed, hospitals merging etc. I believe the next decade will be the decade for private equity growth in the healthcare sector in Africa.

HCA: The urge to have an affordable and effective universal healthcare (UHC) is getting louder by the day across many countries in Africa. What are your comments?

DR. AMIT: UHC is an aspiration that we all think is great; it is to ensure that everyone has access to healthcare without any financial barriers, but to attain UHC is a journey - it is not one policy or an event, it takes many years, for example, in Japan it took 10 years to implement!

For UHC to be effective, you need to fix your health systems, you need to have the right number of health care workers, and you must have a solid base for healthcare provision and then you bring in the financing; it's not an easy process but it requires both the private and public sector to be aligned to enable everyone to access decent, quality healthcare services, be it public or private facilities.

I think UHC is a great policy, and it is a multi-stake holder partnership that is necessary, and I think Kenya, Rwanda, Ghana, South Africa and Zambia are some of the countries that are on the path to implementing UHC soon.

In Kenya, the National Hospital Insurance Fund (NHIF) is one of the institutions that is at the foundation on which UHC can be built. The main point to global health leaders is to avoid mistakes that other countries may have made, as

The latest statistics show that there has been a year-on-year increase of close to 60-70% more funding in the private healthcare sector in Africa through private equity

they seek to implement UHC.

HCA: What opportunities for digital technologies have been brought by the pandemic in Africa?

DR. AMIT: Covid-19 has made us realize that digital health is very vital and necessary to strengthen health systems in Africa.

Before the pandemic, Kenya had never issued any telemedicine licenses - we now have over 75 companies that have been issued with telemedicine service licenses in the past year. This shows that a new crop of companies is rising in the healthcare scene that are going to create employment through digital health!

During this crisis, we have already seen digital laboratory services and digital pharmacies being looked at very favorably - you have seen medicines being delivered to homes and offices bringing service provision closer to the people. Beyond these areas we also have analytics: the amount of data we are receiving because of the vaccinations and the Covid situation if well analyzed can give a snapshot into what is going on in any country. Finally, I also think that artificial intelligence will make reading of CT and radiology scans easier, better and quicker - without the specialist travelling to where the patient is. Digital health is going to bridge the geographical barriers that we have had in healthcare before the pandemic in Africa.

HCA: How can regulations be used by authorities to facilitate innovation and growth in digital technologies in the healthcare space in Africa?

DR. AMIT: Good regulations foster responsible private sector growth; bad regulations will kill innovations. To have good results, you need to let the innovation space thrive, but you need to guide the process by drawing a path on which it can thrive. On the other hand, when there are no regulations then the sector will be scopeless, where people take advantage of the market and innovation will be killed.

Even in medical supplies, we want regulations, but some people are unscrupulous and bring counterfeit and fake drugs to an extent that some people don't have faith in medications anymore. We don't want to follow that path; there is a need for regulations - sound regulations will promote good care, good practice and great innovations.

HCA: What is the opportunity around the workforce of the future in Africa, especially

considering that we have been hit by the pandemic, while we still have gaps in getting adequate healthcare professionals in the Continent?

DR. AMIT: 3% of the world's health workforce is in Africa, yet we have 17% of the global population; you can imagine the disparity that we have! The shortage of health workers in Africa is obviously seen in the weakness of the health systems, there is no doubt we must train more health workers in Africa post the pandemic - that is not negotiable.

We also need to strengthen the community health workforce so that we can increase our primary healthcare services at the community level, and we also need to boost public health education to all households; remember, healthcare starts not at the hospital doorstep but at your home. Prevention plays an important role - it's cheaper than cure.

Having that all done, we still need to work on building our healthcare workforce and we need to use our technology effectively so that we can use the specialist in say, Nairobi to treat a patient in Lodwar. Why does a person in Lodwar who has a skin problem need to travel all the way to Nairobi for treatment? Because of the high cost of transport, you find that person coming in at very late stage in the diagnosis - telehealth will bridge the need for specialists across the entire country. We also need to start thinking of how to attract skills back home.

HCA: Do you think Africa is better prepared to handle the next pandemic?

DR. AMIT: This pandemic is the loudest wake-up call for Africa; we have never had a louder sound than this. We cannot afford to be lazy; this is the wake-up call to become more sufficient; we have learnt that if we are reliant on others, we will be left behind.

We have learnt that if we don't invest in research and development we will be left behind. We have also learnt that manufacturing is key to success and growth of achieving health coverage in Africa and finally, Africa must speak as one voice - we must be our brother's keeper. We must be one continent, one people - because together we are stronger.

HCA: What is the opportunity around setting up hubs in Africa to enhance manufacturing in Africa?

DR. AMIT: There is a great potential of the hub-and-spoke model in Africa. For example, could we make Kenya the cardiology hub, so that

3% of the world's health workforce is in Africa, yet we have 17% of the global population. This shortage translates to the weakness of the health systems, necessitating more health workers to be trained post the pandemic

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everything around cardiology issues could be treated in Kenya? Can Rwanda be the nephrology hub? Can Uganda be the orthopedics hub?

There have been such discussions - if we could set up regional centers of excellence, so as not to duplicate some of these investments in the region.

HCA: What is the importance of the federations like the KHF, EAHF and the African Healthcare Federation?

DR. AMIT: The biggest advantage of such federations and associations is that the private sector gets to speak with one voice.

Before the establishment of these bodies, the government found it very difficult to bring non-state actors on the table to discuss how to improve health systems. It was important for us to have one voice as the private sector to enable us to engage with ministries of health and other stakeholders.

At Kenya Healthcare Federation, for example, we have been able to table our concerns on mandatory contributions to NHIF and we also tabled our concerns on VAT on pharmaceutical raw materials that was later waived. Further, we wanted doctors and nurses to move freely within East Africa; it used to cost US\$ 4000 dollars for a permit fee for 2 years and after we negotiated and discussed it with our regulatory agencies and the Ministry of Health, that permit fee was waived, reducing the cost of employment.

HCA: As the President of the African Healthcare Federation, what is the future of the pan-African federation?

DR. AMIT: AHF is in its early days: we just had the inauguration of the first board of the federation last year. I am really delighted to chair the Board; I have very able directors on the Board.

At the moment, we are learning, we are having cross-country learning platforms - we are all sharing knowledge between each other. We are trying to pick up what really works, what has the best impact, so that we can share that in other countries - during the pandemic, we have already shared many ideas and initiatives. During the first 3 years, we shall be learning and sharing, together with the African union, the Africa CDC and other African agencies.

HCA: Thank you Dr. Amit. Maybe you can make your last statement while also addressing the issue of vaccine hesitancy.

DR. AMIT: I do believe that the vaccines are

working. When Covid-19 first broke out, the number of health workers that were admitted in hospitals were so many; right now, most of our health workers are vaccinated, thankfully, and the number of admissions for health workers is minimum. The good news is that we are not losing doctors or nurses currently. If you look at the current ICU and HDU statistics, over 95% of the beds being occupied by Covid-19 positive patients is by unvaccinated people and a handful who are already vaccinated.

I am trying to say that vaccination works, and the best vaccine is the one you have in your arm. Do not compare the Moderna vaccine to Johnson & Johnson or AstraZeneca vaccines, with regards to which one is better - the best is the one that you can get in your arm right now. It helps you, your family, the people you work with. Do not take a chance to be admitted to a hospital and don't take a chance to spread the virus.

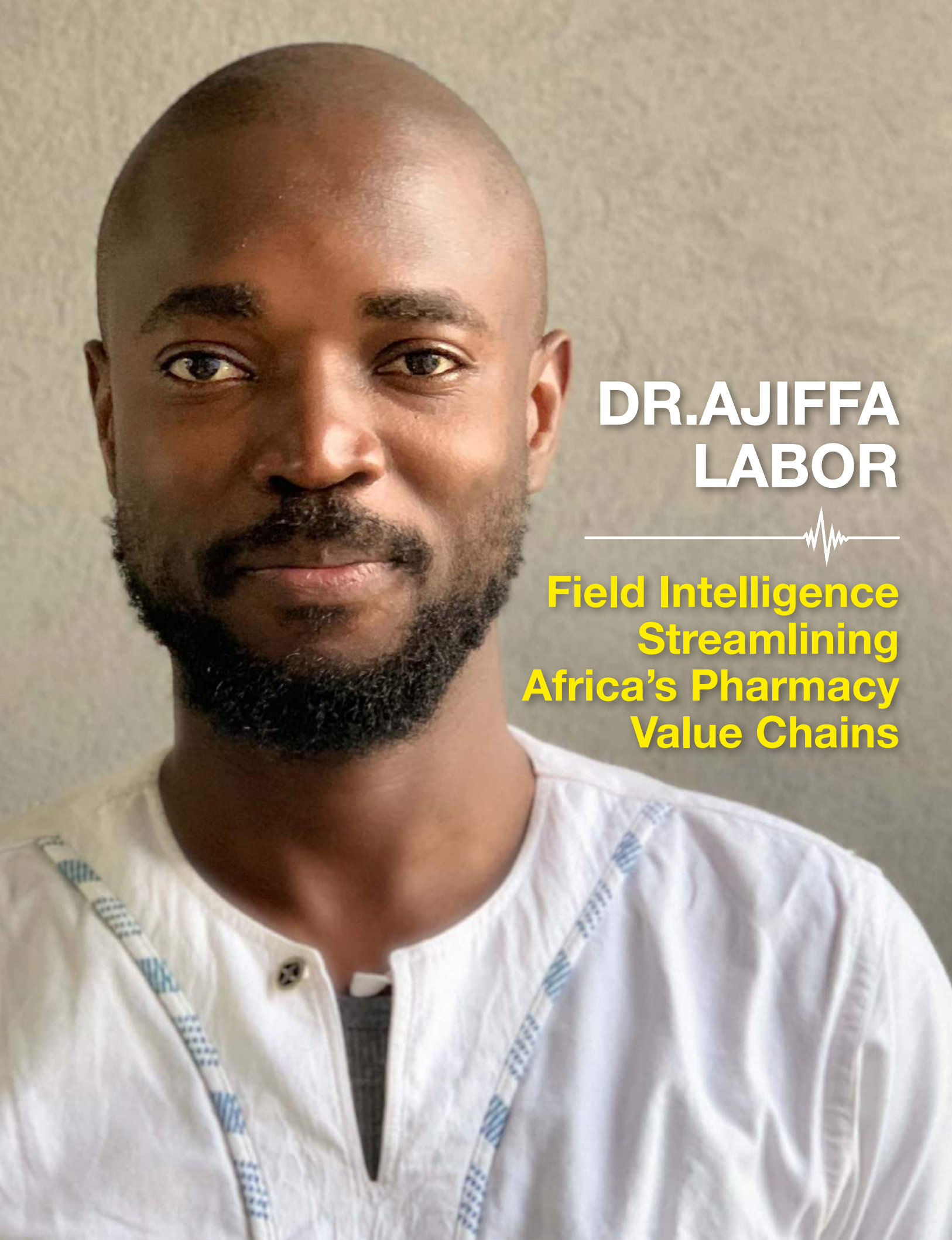
I think vaccine hesitancy is not a major issue in Africa currently because our supply is smaller than the demand; maybe in a few months, we will come to it, but for those who are living in Africa who are hesitant to get the vaccine, I would urge them to consider taking the vaccine as soon as they can to save themselves, their families, colleagues and to save the economy of Africa. It's only then we will reach hard immunity; remember we are not safe until everyone is safe. Please take the vaccine.

HCA: Do you think the pandemic has improved government-private sector relations and dialogue in the healthcare sector in Africa?

DR. AMIT: In many countries, yes and in some countries, no. The countries which had already started discussing public and private sector engagements - had trust already developed which enabled them to build better systems during the pandemic, but in countries that has a gap, the pandemic has made a bigger wedge - it has created a bigger distance between the public and private sectors.

In Kenya, relations between the public and private sector have tremendously increased during this crisis, thanks to the leaders in government and leaders in the private sector. **HCA**

It used to cost US\$ 4000 dollars for a permit fee for doctors and nurses, a situation which has since changed after regulatory agencies waived the permit fees reducing the cost of employment in East Africa



DR. AJIFFA LABOR



**Field Intelligence
Streamlining
Africa's Pharmacy
Value Chains**



Across sub-Saharan Africa, the pharmacy business is beginning to look fairly different to what it has been for decades: branded pharmacy chains are putting up new, clean outlets at petrol stations, shopping malls and street corners, rolled with big money behind the brands.

This is in steep contrast to how pharmacies in Africa have looked like or even operated - often family-owned and operated businesses with one outlet that struggle to access finance to run the business - but inventory management is really what bogs most of them down. For most of them, it is pretty tasking to ascertain how much stock they require, when to stock a particular product and how to evaluate slow moving or completely redundant products.

At the moment, there's not enough data to guide pharmacists and entrepreneurs in the sector on how to tackle these challenges. In economies where cash is tight, there are more or fewer products than are needed at a particular time. If it's the former, they run a risk of selling expired products. If it's the latter, patients can't

get what they need.

Field Intelligence, a technology-based startup, is digitizing this supply-chain process to help African pharmacies sell better and tackle these challenges.

The company, which started in 2015, was government-focused and tried to tackle the challenges facing the public health supply chain in Nigeria's capital city, Abuja. However, the company later made major shifts and is now a pharmaceutical distributor using technology to reimagine how the value chain works.

CULTIVATING THE DREAM

We sat down with Dr. Ajiffa Labor, the Lead Pharmacist and Director of Shelf Life at Field Intelligence in Nairobi, Kenya to tell us more about this revolutionary firm.

A distinguished and decorated pharmacist Dr. Ajiffa's career in pharmacy spans over ten years, having worked in retail pharmacy, hospital pharmacy and industrial pharmacy. Before his role at Field Intelligence, he was the Responsible Pharmacist in charge of the regional distribution centre at Imperial Logistics in Nairobi.

Prior to that, Ajiffa worked as an Independent Monitor for the Polio Immunization Campaign at the World Health Organization (WHO) in Sierra Leone for over three years. He later moved on to become a Pharmacist for the Ministry of Health in Kenya for a year.

He was also a Quality Assurance Manager at South African pharmaceutical major Aspen Pharma Group for two years. In addition to his professional career, Ajiffa has been a Volunteer Pharmacist for the CDC at their Tabitha Medical Clinic in Kenya for the past nine years.

“Field was created to help transform the role of technology, business, and supply chain for sustainable, equitable development in Africa with a keen focus on improving healthcare systems,” Dr. Ajiffa narrates.

He tells us the healthtech company uses live practical data to build out sustainable and efficient supply chains to improve healthcare access across Africa. From research in the field, the company has been able to develop systems and tools for health workers to improve the quality of care for patients.

“Field Intelligence works on some of the hardest, most important problems of our age to build products and services that deliver that access in frontier and emerging markets, where it’s hardest fought and has the highest impact,” he informs HealthCare Africa.

The company is helping governments and businesses make good on the promise of healthcare in the fastest-growing parts of the world by making pharmaceutical supply chains radically simple, affordable, and effective by helping providers, from the largest health systems to the smallest drug shops, ensure a new generation can access the care it needs to flourish.

Field’s standout product - Shelf Life – is a next-generation pharma distributor serving a network of retail pharmacies with data-driven planning, fulfillment and finance solutions.

Field Intelligence launched Shelf Life in 2017 as the standalone product to handle this transition. Up until now, they have operations in Nigeria and Nairobi. The product aims to solve the inventory problem across Africa’s US\$65 billion pharmaceutical market.

“Shelf Life takes the burden and risk of inventory off the pharmacies. It manages forecasting, quality assurance, fulfillment and inventory management via a subscription service. Pharmacies sell Shelf Life-supplied goods on consignment through a pay-as-you-sell

program, avoiding expiry risk and accessing a cheaper alternative to working capital finance,” Dr. Ajiffa explains.

He also added that they project that this model has allowed pharmacies to grow an average of 25% CAGR.

Their other product is Field Supply – a supply chain management SaaS for emerging market health systems. According to Dr. Ajiffa, these solutions enable continuity of business in a cost effective and very convenient manner for pharmacies across their network.

BUSINESS NOT AS USUAL

Field is supporting Africa’s small private pharmacies that currently provide 80% frontline care to Africa’s 1.4 billion population by providing technology-enabled tools for data, inventory and access to capital.

The company handles a wide range of pharmaceutical products through its designated pharmacies with each retailing high quality and current treatments for all kinds of diseases.

“When it comes to our most popular categories, antibiotics takes the lead with over 65,000 units sold in just 2020 alone,” he remarks. Antimalarials also represent an outsized proportion of its sales, a reminder that malaria remains a burden still being tackled by patients across Nigeria and the African continent at large. In Africa, it is estimated that at least 200 million people get infected with malaria annually.

The company also notes there has been a growing demand for family planning products. “It’s a clear indication that our member pharmacies remain the cornerstone of access to modern contraception for many.”

Field has recently expanding into Rivers, Edo, Kaduna, Kano, Enugu, Delta and Kwara States in Nigeria, and Eldoret, Mombasa, Kisumu and Naivasha in Kenya. Through this platform, independent and franchise pharmacies can access 1000 unique products, inventory planning, subscription delivery and pay-as-you-sell on the Shelf Life platform.

The expansion by the company has added onto Field Intelligence’s existing 796+ pharmacy membership, which has served over 1.4 million patients to accelerate quality frontline healthcare across Africa.

According to data released by the company for the past financial year, Shelf Life membership subscriptions have increased in the past year, with Nigeria increasing by 47% and 65% in Kenya.

“Nigeria has 4,500 registered pharmacies and

Digital health in Nigeria is set to reach a revenue volume of over US\$1.3 Billion by 2025, with a 22.31% annual growth rate



IN NUMBERS

67,352
INDIVIDUAL
PRODUCT
SUBSCRIPTIONS
AT FIELD
INTELLIGENCE

over 15,000 drugstores, whilst Kenya has 6,000 registered pharmacies and chemists,” Dr. Labor tells us.

Field looks at a very huge market opportunity, whereby the company estimates that, in its current operating markets, digital health in Nigeria is set to reach a revenue volume of over US\$1.3 billion by 2025, with a 22.31% annual growth rate. Similarly, Kenya is on course of a positive trajectory, with a 19.97% annual growth rate, resulting in a market volume of US\$649.73 million by 2025.

“In 2020 we experienced our largest leap in growth in pharmacies subscribing to Shelf Life products. We closed 2019 with just over 19,000 subscriptions, and 2020 ended with 67,352 product subscriptions, a whopping 266% increase.”

In 2022 Field Intelligence aims to surpass 2,000 pharmacies and drugstores using Shelf Life and by 2025 the company is targeted to have 12,000 pharmacies in its network, 4 times that of Chinese pharmacy chain GouDam to make it the

largest globally.

BRAVING OUT A PANDEMIC WRECKED YEAR

2020 was an unpredictable year. COVID-19 tested healthcare systems and providers worldwide. However, instead of bowing to the monstrous pandemic, Field supported frontline pharmacies and government health programs in humbling and sometimes surprising ways.

“Nothing could have prepared us, or the pharmacies we serve, for the year healthcare providers would experience,” Dr Ajiffa says.

From the products in high demand by patients to the products with the highest subscriptions, Dr Ajiffa recounts that they could not have attempted to make an accurate projection. He notes that the Kenyan Shelf Life business grew 55%, mostly felled by the regression in available finances to fund operations, which turned many pharmacies toward Shelf Life.

“Equally, the high demand for supplements, PPEs, Masks, sanitizers and other pharmaceutical interventions for COVID-19 really fueled our



Large health systems, including national and state public health programs, use our proprietary health supply chain management software-as-a-service, Field Supply, to manage everything from forecasting and planning, to logistics and monitoring of the drugs they distribute through hospitals and health clinics

growth as a company,” Dr Ajiffa says.

Since Covid-19 hit in March 2020, Field supplied and disturbed over 580,000 units of medicines and other essentials, to Shelf Life member pharmacies. Shelf Life covered a total of 2002 unique products spanning 63 product categories. Field Intelligence was able to facilitate the anticipated demand for anti-malaria and contraceptive products, which sold over 87,000 products in these categories.

In addition to that, during the pandemic, there was an unexpected inclination of sales in both Nigeria and Kenya for supplements (45,618 units), cough and cold medicines and PPEs as communities and health workers grew increasingly more conscious of COVID-19 symptoms and preventative measures.

“At Field, our dedication to making healthcare more accessible goes beyond the work we do with Shelf Life. Large health systems, including national and state public health programs, use our proprietary health supply chain management software-as-a-service, Field Supply, to manage everything from forecasting and planning, to logistics and monitoring of the drugs they distribute through hospitals and health clinics.”

In 2020, Nigeria’s National Tuberculosis Control Programme joined the Field Supply platform, along with two more state Maternal & Child Health programs in Nigeria. Field Supply

also surpassed an incredible milestone during the year: 135 million pharmaceutical interventions in Africa enabled since its launch in 2016.

The Field team - although still relatively small in size compared to its impact - has added quite a few new additions to the team. The year began with 33 people on the team and ended with 56. The company also launched the Customer Experience team with 3 customer success managers dedicated to ensuring its clients are satisfied and have a smooth experience.

When asked about the future perspectives for the company, Dr. Ajiffa insists that their key focus is to curate the best out of their existing markets in Kenya and Nigeria, ensuring that pharmacies are adequately stocked, with transactions well managed through digital platforms, before looking at other African markets.

The company distinguishes itself from other competitors by working with pharmaceutical manufactures both locally and internationally to provide subscribed pharmacies with relevant and practical stock as well as nurturing entrepreneurship skills in young and newly graduated pharmacists.

Field successfully recently ran a undisclosed amount in Series A funding round to facilitate its operations, grow its business and improve its offerings and are at the moment, curating a Series B round expected to be ready by 2022. **HCA**



Covid-19 Drives Growth & Innovations In **Digital Health**



Digital technology has enabled healthcare providers around the world to provide more targeted and effective interventions to patients. As the COVID-19 crisis continues to shape the new normal, it is critical that healthcare stakeholders understand the digital health landscape. The first half of 2020 saw unprecedented levels of digital health activity, including US\$5.4 billion in venture funding, megadeals such as Teladoc Health's US\$18.5 billion acquisition of Livongo, and accelerated virtual care delivery, such as telehealth and remote monitoring.

DEFINITION

Digital Health has many definitions. However, in a broader context, it can be defined as the integration of information technology and electronic communication in the healthcare industry to make healthcare more simple, accessible, and cheap.

Digital health is also utilized in minimizing the administrative costs linked with the treatment and technological advancements in the continuum of clinical data transmission to electronic health records (EHR).

Full-fledged E-health operations require robust infrastructural support with reliable internet connections as well as electronic systems. The application of information and communication technology (ICT) in healthcare is

a plausible way of having everyone get access to proper healthcare facilities.

MARKET OVERVIEW

Digital technology has the potential to unlock enormous value in healthcare systems around the world, with the added benefit of improving care while lowering costs. The McKinsey Global Institute estimates that the costs saved by remote monitoring, artificial intelligence, and automation could range between US\$1.5 trillion and \$3 trillion per year by 2030. (See exhibit 1).

As of 2019, digital health represented a US \$350 billion global market with numerous opportunities to compete across multiple subcategories.

Teleradiology is expected to have the largest market share among numerous subcategories. Teledermatology, telepathology, and telepsychiatry are other application-based segments that are expected to increase their market share.

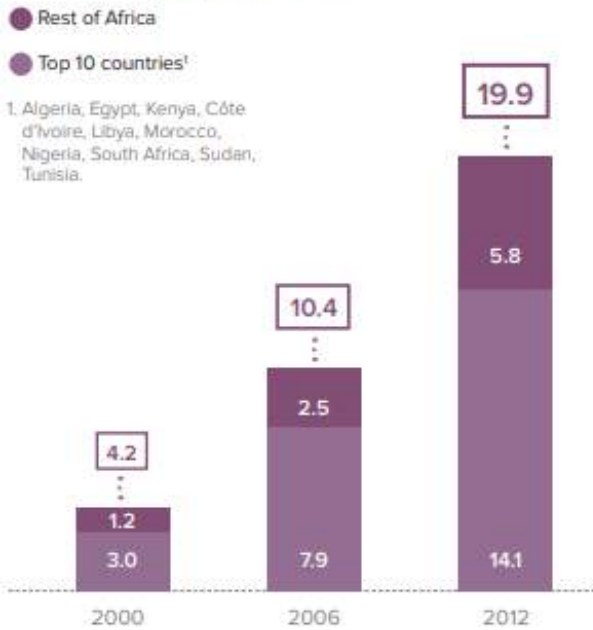
However, the rising demand for secure data privacy infrastructure and growing security concerns are expected to slow down the growth of these services over the forecast period.

KEY MARKET TRENDS NORTH AMERICA

North America holds the largest share of the eHealth market revenue, and it is anticipated to maintain its dominance from 2021 to 2026. The

The covid-19 pandemic has brought to light the importance of global health solutions that benefit all nations

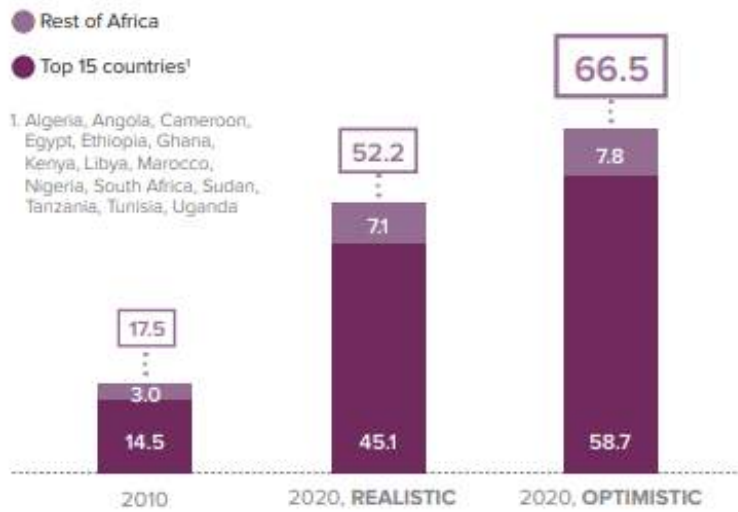
Market size, US\$ billions



Source: McKinsey, Africa: A Continent of Opportunity for Pharma and Patients, April 2015

The African pharmaceutical market is booming

The African pharmaceutical market was worth US\$ 19.9 billion in 2012 and is forecast to grow to US\$ 50 billion by 2020, driven by the Continent's demographic boom *inter alia*.



Source: McKinsey, Africa: A Continent of Opportunity for Pharma and Patients, April 2015

The population using smartphones is very high, providing a lucrative opportunity for E-health and m-health solutions usage for various health disorders

Digital Health market in the U.S. is estimated at US\$80.2 Billion in the year 2021.

Europe is another major market for digital health, driven, ongoing improvements to healthcare infrastructure. Europe is expected to grow steadily due to adequate infrastructure, rising healthcare costs, improved healthcare solutions, innovative technologies, increased use of m-Health, increased use of remote monitoring devices, and favorable regulatory scenario.

The Asia-Pacific digital health market is examined geographically, focusing on China, Japan, India, and the rest of Asia-Pacific.

During the forecast period, the Asia-Pacific eHealth market is expected to grow significantly. The rising digitalization of healthcare infrastructure in emerging economies such as India and China are some of the major factors driving the market growth.

China accounted for the lion's share of the Asia-Pacific eHealth market in 2020 and is expected to maintain this position throughout the forecast period.

China will continue to be one of the fastest-growing regional markets. The Asia-Pacific market, led by countries such as Australia, India, and South Korea, is expected to reach US\$3.9 billion by 2026.

The Latin American E-health market is anticipated to grow at a CAGR of 13.2 percent

from 2021 to 2026. Its market share revenue is currently valued at US\$ 1.419 billion and is predicted to grow to US\$ 2.638 billion by 2026.

The E-health market in this region has received a significant boost from increased smartphone usage. The population using smartphones is very high, providing a lucrative opportunity for E-health and m-health solutions usage for various health disorders.

EFFECTS OF COVID-19 ON THE E-HEALTH MARKET

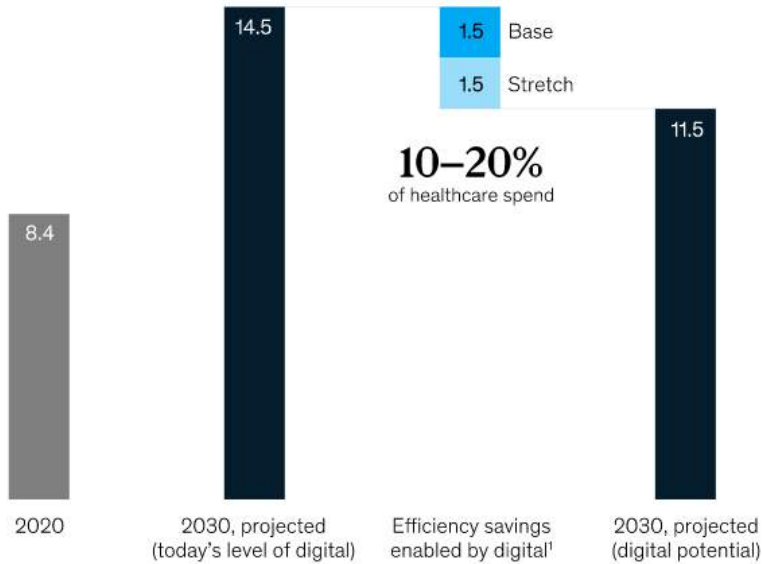
The COVID-19 pandemic has brought to light the importance of global health solutions that benefit all nations. However, with Africa's vast population bearing the world's highest disease incidence and significant healthcare shortages, the challenge and opportunity to increase the use of digital health solutions to benefit local populations, as well as increase real-world evidence and data related to diverse populations for global therapy development, makes this a critical area to focus on.

McKinsey reported that COVID-19 has resulted in a significant increase in the use of telehealth. Consumer adoption has skyrocketed, with 11 percent of U.S. consumers using telehealth in 2019 rising to 46 percent now using telehealth to replace missed healthcare appointments.

Remote health covers virtual consultations

Digital technology's value to healthcare systems could reach \$3 trillion by 2030.

Global healthcare spending, \$ trillion



¹Degree of efficiency savings driven by degree of implementation of digital health interventions and ability of health systems to translate this into efficiencies (eg, reduction in demand or unit cost of healthcare activity).
Source: McKinsey Global Institute

and personal wellness, using video-conferencing and wearables; data-driven care includes data sharing across the entire healthcare system to provide a seamless patient experience; and intelligent automation involves AI-enabled customer diagnosis, as well as robotic surgeries and internet of things (IoT)-based asset tracking.

KEY PLAYERS IN AFRICA

The strains placed on Africa's healthcare systems since the Covid-19 pandemic outbreak have heightened the demand for innovative technological and digital solutions to support better patient management, universal access, and disease prevention.

Digital technologies have already played an important role in the global COVID-19 response, providing case identification, contact tracing, and evaluation. These lightning-fast responses are made possible by billions of mobile phones, online datasets, low-cost computing resources, and advances in machine learning and natural language processing. However, more needs to be done not only to address current challenges, but also to sustain momentum beyond the pandemic.

The digital health industry is a competitive landscape, and numerous companies across the African continent are currently focusing on the launch of new platforms and aggressively seeking to raise additional funds to expand their

services and meet the high demand caused by COVID-19. This is according to a report released by Fortune Business Insights.

Notable health tech startup companies in Africa include Yodawy (Egypt), Vezeeta (Egypt), Estshara (Egypt), mPharma (Ghana), iNNOHEALTH (South Africa), (South Africa), and Field Intelligence (Nigeria).

EGYPT

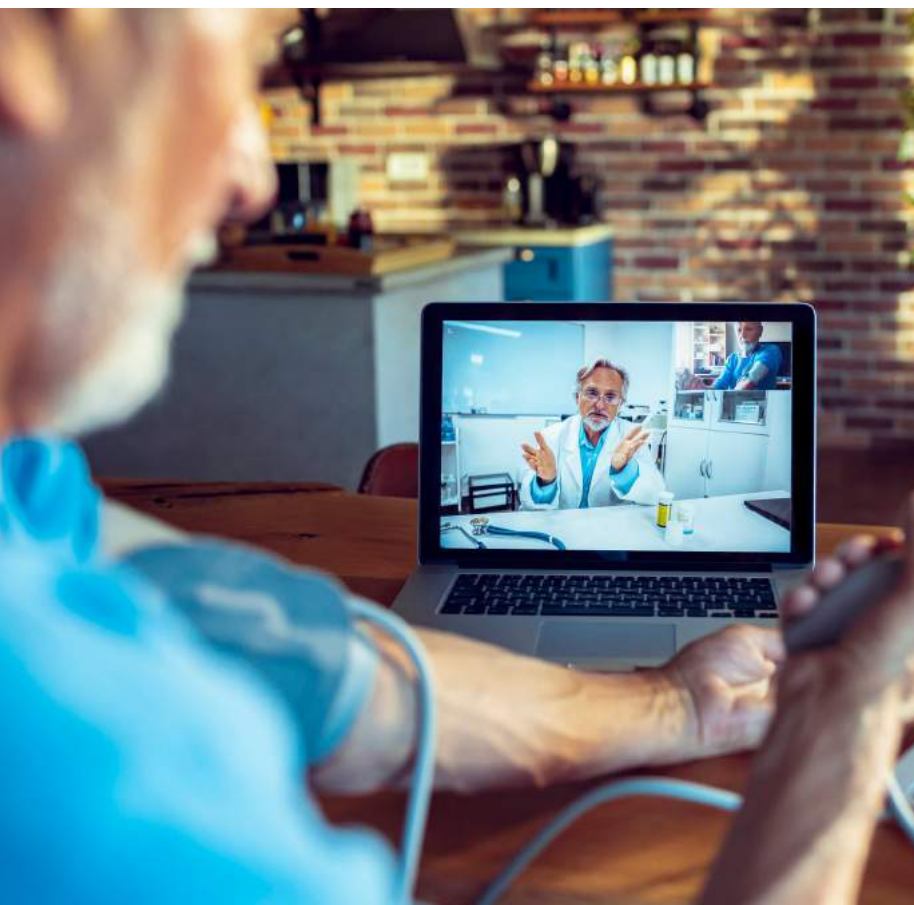
Vezeeta, the Middle East and North Africa's leading healthcare startup, has expanded to East Africa with the launch of its doctor booking platform in Kenya. The Cairo-born company, which is now headquartered in Dubai, has expanded its coverage by venturing into the Kenyan market and intends to expand to Nigeria.

Estshara is an online healthcare consultation platform that aims to make healthcare consultation accessible to everyone in the MENA region, as well as to assist small businesses with employee health insurance and to maintain an advanced technological growth level in the healthcare sector.

The company stated at the time that it will use the funds to support its growth plans, which include rolling out new digital capabilities such as online pharmacy and telehealth across its existing footprint and into new markets.

Yodawy, is another healthtech startup firm,

Digital technologies have already played an important role in the global COVID-19 response, providing case identification, contact tracing, and evaluation



which was founded in 2018. It has introduced the region's first Pharmacy Benefit Management (PBM) solution, which connects pharmacies, health insurance providers, and patients via a sophisticated cloud-based approval engine to serve a larger customer base faster.

The platform works on multiple levels with various stakeholders, allowing patients to have their medicines and products delivered, insurance companies to automate approvals, and pharmacies to increase sales through e-commerce servicing.

Customers can easily order medicines and other healthcare products using the Yodawy Android or iOS app. Through a real-time AI-powered approval engine, its PBM solution connects pharmacies, health insurance providers, and patients.

Patients can take advantage of the service by registering their insurance cards, requesting medications, and receiving instant approvals – after which the medications are delivered to their door.

GHANA

Ghanaian healthtech startup mPharma was founded in 2013 by Gregory Rockson (CEO),

Daniel Shoukimas (CPO), and James Finucane (CTO) with the goal of improving patient access to high-quality medications. It provides health insurance and pharmaceutical companies with solutions to make it easier for patients to afford their medications.

The company's core strategy is to use those platforms to gain more market power with pharmaceutical companies while also lowering retail prices through "just-in-time" inventory management. In the long run, Rockson hopes to collaborate with African governments to improve drug availability through better centralized systems.

The company recently launched Mutti, an electronic credit financing service to help patients pay for healthcare and generate income from sales of its data on medicines use.

The digital platform has been designed to make telemedicine better by providing doctors with patient diagnostic data synchronously during a virtual consultation. Announcing the launch, mPharma CEO and founder, Gregory Rockson, announced that all children below the age of 10 that live in a community with a Mutti pharmacy will receive a free three-month Mutti Doctor subscription.

This will give them unlimited access to free medical examinations and physician consultations. The company targets to, over the next 6 months, open 100 Mutti Doctor locations across their network of Mutti pharmacies.

In the near future, the mPharma team plans to expand its Vendor Management Inventory (VMI) and QualityRx platforms to over 14,000 community pharmacies in Ghana, Nigeria, and Kenya.

The US\$50 billion African pharmaceutical market faces challenges such as sprawling supply chains, low order volumes, and exorbitant prices. Many Africans continue to die from preventable or easily treatable diseases because they cannot afford to buy medications. (See Exhibit 2).

mPharma's presence in Ghana, Kenya, Nigeria, Rwanda, and Zambia Ethiopia, and aims to increase access to these medications at a lower cost while ensuring and preserving quality. The company serves over 100,000 patients per month and to have distributed over a million drugs to Africans through 300 partner pharmacies throughout the continent.

KENYA

Kenya is ranked second in Africa for digital health innovation behind South Africa and

IN NUMBERS

US\$
350B
GLOBAL
E-HEALTH
MARKET SHARE

fifth in Sub-Saharan Africa for digital health priority. The nation's digital health market is poised to experience a positive deviation with a 19.97 percent annual growth rate resulting in a revenue volume amounting to US\$ 649.73 million by 2025.

Notable example includes Ilara Health, a Kenyan-based health tech startup that provides next-generation point of care diagnostics to African consumers. The startup contributes to providing critical healthcare and bridging a gap in diagnostic health care technology. In many peri-urban and rural areas across Africa, diagnostic services are non-existent due to the lack of laboratory-based diagnostic services and tools.

The health tech startup provides access to life-saving tests and screenings that assist local medical providers to improve the quality of their healthcare service.

Changamka Microhealth, is another Kenyan start-up that aims to 'facilitate the financing of healthcare services for the working poor in Kenya'. Its products include a health savings account, e-vouchers, and a microinsurance scheme. In 2008 it launched a phone-based health insurance product together with Safaricom and British American Insurance Kenya Limited.

A third example is the M-TIBA health wallet, a digital platform accessible via mobile phone that was designed to enable healthcare savings for Kenyans on low incomes. It was created as a result of a collaboration between PharmAccess and CarePay, a digital technology company that received funding from Safaricom and M-PESA.

The mission of PharmAccess is to 'improve health care in Africa through technology and mobile innovations,' and make healthcare markets work through digital innovations.'

Then there is Matibabu, a smartphone app that helps to diagnose malaria without a blood sample. Using a custom-made piece of hardware (matiscope), it can pierce beyond the skin to reach the Red Blood Cells. A finger is inserted into the device to diagnose and the results are viewed via a smartphone.

Hello Doctor is another digital health platform available in Kenya. Hello Doctor offers free, daily updates to essential healthcare information. The app also offers healthcare advice, answers to health-related questions in live group chat forums, confidential one-on-one text conversations with doctors (also in local languages), and the ability to receive a call back from a doctor within 60 minutes.

SOUTH AFRICA

iNNOHEALTH was founded in 2020 by medical doctors Chad Marthinussen, Wade Palmer, and chartered accountant Abdul Malick Salie, with the goal of providing quality, affordable, and equitable healthcare to everyone on the African continent.

The startup's first product is the doctor-led app MyPocketHealth, an integrated patient healthcare platform that, when it launches later this year, will provide comprehensive AI-driven digital healthcare solutions for all South Africans. It has also developed a wireless POCUS and owns the Epitogen technology in Africa

NIGERIA

Nigeria's digital health market value is projected to reach a revenue volume of at least US\$1.3 billion by 2025, with an annual growth rate of 22.31 percent.

Field Intelligence is a health tech company focused on digitizing the public health supply chain to help pharmacies sell better. Also, there is 54gene, which is focused on advancing better health outcomes for global populations through precision medicine and addressing the unmet need for novel therapeutics in healthcare.

INVESTMENTS AND FUNDING OPPORTUNITIES IN AFRICA

Although Sub-Saharan Africa has the world's highest disease burden, the region's economic and technological advancements provide opportunities to develop sustainable mobile health solutions to improve health care. This necessitates an integrated approach, strategic partnerships, and the development of new business models.

Digital health strategies are being developed and implemented at a breakneck pace. According to an article published in the Lancet, National digital health strategies and architectures exist in 41 of 54 African countries.

AFRICA'S DIGITAL HEALTH MARKET POTENTIAL

The dominance of donors, NGOs, and other charitable actors in healthcare in 21st century East Africa is giving way to institutions more supportive of the market, such as the philanthropic Gates Foundation and foreign and local for-profit private sector actors. [HCA](#)

Although Sub-Saharan Africa has the world's highest disease burden, the region's economic and technological advancements provide opportunities to develop sustainable mobile health solutions to improve health care



A Covid-19 Vaccine Plant in Africa? This is What it would Take to Build One

KLAUS MEYER -
PROFESSOR OF
INTERNATIONAL
BUSINESS,
IVEY BUSINESS
SCHOOL, WESTERN
UNIVERSITY

The COVID-19 crisis has revived discussions on localising vaccine manufacturing to the African region to reduce the dependence on imports.

The fact that Africa is lagging so far behind on the COVID-19 vaccination compared with Europe and North America has highlighted the importance of the issue. Most African countries depend on the WHO-sponsored COVAX scheme, which buys COVID-19 vaccines from manufacturers by pooling demand, thus enhancing their bargaining power. It also offers discounts for least developed countries.

However, the scheme is underfunded and competes with national authorities procuring vaccines directly from the manufacturers, and thus lacking a secure supply. Moreover, the supply shortage became worse when the Serum Institute of India, previously the main supplier to COVAX, focused on domestic needs when the pandemic spread in India.

So what would actually be needed to localise vaccine manufacturing in Africa? I argue that the main constraints are not patents but time, knowledge transfer and capital. To overcome these constraints, a broad co-operation of many partners is necessary.

WHAT'S IN PLACE

Several companies have announced their intention to produce COVID-19 vaccines in Africa. These include Aspen in South Africa and Sidal in Algeria.

Expertise related to other types of vaccines also exists, for example, in the Institut de Pasteur de Dakar. However, most of these plants focus on the final stages of the value chain, filling vials and

packaging. Across Africa, competences related to earlier stages of the value chain are very limited.

A key challenge for local manufacturers of vaccines – and drugs more generally – is competition from India. Indian companies have developed pharma competences, especially in generic medicines and vaccines, and benefit from a large domestic market.

National health services in developing economies thus face a basic dilemma: should they import pharmaceuticals from India, or should they procure from local companies that operate at higher costs?.

As most healthcare providers operate under tight budget constraints, they typically opt for imports.

Thus, local companies in Africa would find it very challenging to be cost-competitive in the longer run when the current worldwide scarcity of COVID-19 vaccines is overcome as new plants become operational around the world. What are the key obstacles an African vaccine hub would have to overcome?

CONSTRAINTS

Time: It takes time to design and build a manufacturing plant, to obtain all the regulatory approvals, and to establish quality control processes. A particular challenge is that vaccines are living, genetic organisms, consisting of large and complex molecules that require complex biologic processes for their creation, which need to be grown organically.

Moreover, manufacturing depends on supply chains for ingredients and materials, which in this industry generally are global. Globally, supply chains for COVID-19 vaccines have

been hampered by manufacturing bottlenecks, monopolised supply, patents and even export bans. In addition, national trade barriers within the region can increase the costs of sourcing critical inputs.

Given all these constraints, a potential new plant in Africa would not be operational in 2021, and would not help solve the immediate need for vaccines now. Yet, vaccine building vaccine competences is a goal with longer-term benefits.

Knowledge transfer: Building and operating a vaccine plant requires state-of-the-art knowledge – especially for new types of vaccine such as mRNA, including how to build and operate a plant, and how to control its quality. Such knowledge is typically tacit and held by people and teams involved in the research and development. Thus, it needs to be shared by direct interpersonal interaction; it cannot be obtained by reading patents or other public sources.

This contrasts with drugs, for example, that can be reverse engineered, enabling generic manufacturers to develop and scale up production without collaboration of the patent holder.

Thus, new manufacturers of vaccines need to acquire and absorb a lot of knowledge, which practically cannot be done (at least not in a timely fashion) without direct collaboration with those who hold the knowledge. At the same time, national regulatory authorities need to address their capability gaps.

Investment capital: Big investment projects with revenues far in the future need risk capital to finance the construction. The first question any investor – be they an aid organisation or a private investor – will ask is: what is the demand for your product when you are ready to go to market?

Operating costs in Africa are likely to be higher due to lesser scale of the operation, and more complex logistics. Thus, an investor would be concerned that the plant is not price-competitive in normal situations – that is without the current global shortage of vaccines in 2021.

This concern can be addressed by advance purchase commitments, preferably with up-front payment (that’s how the UK and the US secured their early lead in vaccine supply).

As the likely buyers mostly are state-related agencies, such as national health systems, they would have to sign purchase agreements. Ideally, several national health systems would cooperate to contract one manufacturer in the region to enable scale of the operation. Yet, they might be reluctant to commit given the prospect (albeit

uncertain) that imported vaccines might be available at a cheaper price in two to three years.

Once, national health systems – or other potential buyers – have indicated their commitments, there may also be an opportunity for effective development aid. Donors may for example subsidise the purchase agreements. Or, development banks may take equity in the new plant and share the risk of the operation.

Intellectual property rights: A waiver or a compulsory licence for key technology, including ingredients and materials, would help lower costs. But it would need to be valid over the operating lifetime of the plant. In other words, a waiver “until the end of the pandemic” is of little help.

The World Trade Organisation’s TRIPS agreement in principle allows countries to impose compulsory licensing in cases of national emergencies. However, a recent review study has shown that this possibility is rarely used – the requirements are too complex, especially for countries without local manufacturing capacity.

Reform of the TRIPS agreement would help, notably by simplifying compulsory licensing, or by reducing the scope and length of intellectual property rights. At a minimum, this would strengthen the bargaining power of local players engaging with the global industry.

OVERCOMING THE CONSTRAINTS

Local vaccine manufacturing in Africa is both feasible and desirable because it helps Africa to respond to future pandemics. To achieve that, a broad regional partnership with substantial up-front commitments is necessary.

First, to enable efficient scale of operation, national authorities across the region need to collaborate to coordinate health sector procurement, regulation and quality control of the medicines, and trade policies.

Second, owners of the technology should be part of the partnership, not only to facilitate the transfer of tacit knowledge but also to ensure quality control. BioNTech, for example, has stated that it is willing to engage in this type of collaboration.

Third, development organisations may support such ventures by bringing partners together, co-funding advance purchase agreements, and perhaps by investing in the plant itself. Policy makers may help creating such partnerships by simplifying compulsory licensing rules. In contrast, a time-limited patent waiver would achieve little. **HCA**

Local vaccine manufacturing in africa is both feasible and desirable because it helps africa to respond to future pandemics



**Vas
Narasimhan**



**What I learned in
my three years
as CEO**



Back in 2018, I was in the midst of my energizing and nerve-wracking first days in this role. I remember standing with my wife and youngest son in my arms after my first town hall as CEO, waving to a packed auditorium and feeling a sense of wonder about what was next.

I couldn't have imagined that just a few years later our auditoriums would be empty, our offices would go quiet, and we'd be facing a pandemic that would devastate the world and nearly halt the global economy, general health visits, and our lives.

As I reflect on this past year, armed with lessons that are more durable, I wanted to share some of my learnings.

TODAY'S FAILURES ARE TOMORROW'S MIRACLES

For decades in the world of medicine, we've been trying to harness the power of RNA—yet there were major scientific challenges to overcome.

I remember working on RNA vaccines over 12 years ago without much success. Novartis invested in RNA therapeutics for decades with little to show for it. RNA was difficult to produce, difficult to deliver to certain organs, and difficult to make specific. The field struggled for a very long time.

But something remarkable has happened in the last few years. Scientists began to unravel the mystery, and companies and academics developed better technology. We figured out how to make RNA drugs more specific, and in 2018, the first RNA-specific drug was approved by the US Food and Drug Administration for a rare disease.

Today, we've harnessed the power of RNA to create revolutionary vaccines for COVID-19.

Decades of failure and incremental progress led the scientific community to harness the power of RNA precisely at this moment, when the world so desperately needs it. It's a powerful reminder of not just the power of science, but

Companies invest in many things to grow—innovation, infrastructure, tech, acquisitions—but I've always believed that our most important investment is in our people



also that resilience and optimism through failure are required to reimagine medicine.

THE POWER OF SHOWING OUR HUMANITY

Companies invest in many things to grow—innovation, infrastructure, tech, acquisitions—but I've always believed that our most important investment is in our people. That's why we've been focused on our culture journey, one of the key elements enabling Novartis to weather the crisis.

Early on in the pandemic, I recorded an internal video at home with my son sharing company updates and resources regarding health, safety, and our pandemic response contributions. We were in his bedroom—which doubles as my home office—and the positive reaction across Novartis was remarkable. I underestimated the power of openly showing that I was in the same situation as everyone else—finding a space to set up a home office, sharing work space with family, creating new routines.

Moments like that continued to happen occasionally, on my side of the screen and on the other. Sometimes I'd pause meetings to help my sons with a homework question. It was one additional symbol that we were all in this new reality together, doing our best and figuring things out as we went.

Pushing the boundaries of human understanding and doing things that have never been done before require resilience, and what will matter most in the long run are the transformational successes that change life as we know it

AN INDUSTRY DRIVEN BY PURPOSE

This year the world witnessed the largest and fastest mobilization of global scientific capabilities against a public health crisis. When the world needed us most, the biopharmaceutical industry came together with governments and academia around a common purpose—to end the crisis and improve the health of the world.

I co-chaired the industry consortium that came together to combat COVID-19, and across the industry we've shared our compound libraries, we've pooled our R&D capacity, and we've combined our manufacturing capacity.

I'm proud to be partnering with Albert Bourla and Uğur Şahin as Novartis is helping co-manufacture their companies' mRNA vaccine, among others, to boost global supply. As I shared at the G7 recently—there is much work ahead to end COVID-19 and increase preparedness for the next pandemic, so we must stay the course and continue collaborating across sectors to secure a healthier future.

THINK BOLDLY, STAY RESILIENT

Ever since I was a student, my personal purpose has been to inspire a healthier world. I never imagined I'd end up working at it from this seat, leading a global team of over 100,000 passionate people working to improve life on our planet.

As a species, we've seen remarkable gains in life expectancy and quality over the past 100 years due to science and modern medicine, and we'll only advance those gains with bold, unbounded thinking.

But here's the thing about charting new frontiers—it's never without new challenges. Criticism and failure are practically inherent.

As a leader, you have to navigate your own moments of doubt too. In those moments, I try to return to my sense of purpose. Novartis exists to reimagine medicine in ways that will impact generations. Pushing the boundaries of human understanding and doing things that have never been done before require resilience, and what will matter most in the long run are the transformational successes that change life as we know it.

As I continue on year four of this journey, I do so with a renewed passion to improve human health, with a deep sense of gratitude for all Novartis associates and those helping end this pandemic, and as confident as ever that our best days are ahead of us. **HCA**



Choosing the right ventilators: Here's what hospitals need to know

Before purchasing ventilators, hospitals and health care centers need to consider certain parameters and features that ensure that the model/type of ventilator chosen is the right fit for the hospital.

A life support device used for critically ill patients who require artificial respiratory assistance, ventilators, are one of the most crucial medical devices available in any hospital, medical center, or rehabilitation facility. Also known as respirators, ventilators have seen increased demand ever since the onset of the COVID-19 pandemic in early 2020. During the second wave of the pandemic in April 2021, the demand for ventilators grew astronomically as cases began to increase rapidly.

To meet the soaring demand for this lifesaving equipment, hospitals and medical centers have had to place orders for more ventilators than ever before, resulting in manufacturers having to significantly ramp up production to ensure there is no dearth of ventilators at medical facilities.

However, before purchasing ventilators,

hospitals and health care centers need to consider certain parameters and features that ensure that the model/type of ventilator chosen is the right fit for the hospital. That said, here are some touchstones by which hospitals can navigate through the choices and opt for the right one.

EASE OF USE, QUALITY, AND ACCURACY

One of the fundamental parameters for critical medical devices such as ventilators is that of user-friendly interface that ensures easy usage and operations. Easy-to-use, ergonomically designed ventilator systems are often the preferred choice for hospitals as complex machine operations tend to be time-consuming and tedious. An intuitive interface will ensure ease of usability by all healthcare professionals with minimal training required.

Besides this, being lifesaving medical

BY HARSHIT RATHORE



equipment, hospitals need to ensure that the ventilator they are choosing is of high-quality and has reliable critical components. For instance, in turbine-based ventilators, the turbine ought to be of superior quality for seamless working apart from other vital components such as valves, sensors, etc.

Furthermore, high-quality needs to be backed by accuracy. Hospitals should consider choosing a ventilator that delivers the set parameters such as volume, pressure, and flow of oxygen accurately.

DATA INTEGRATION

Data integration is one of the new-age feature that very few companies offer but is being proven to be important and is expected to further ease the overall operations at a medical facility.

The integration of data of various devices in an ICU with the central data management system will help the healthcare professionals to enhance the operations and patient management remotely as well. Such a feature is expected to disrupt the healthcare industry and further pave the path towards tech-driven treatment.

BATTERY BACKUP AND INSTALLATION BASE

Although most hospitals are well-prepared for power outages with backup generators, it is always safe to be fully equipped to handle any unprecedented emergencies and ventilators being crucial life support systems, make it a literal matter of life or death. Ensuring sufficient

battery backup in a ventilator is one of the methods to mitigate any risk towards this end.

The installation base, an aspect that defines the trust of existing clients, is also an important factor to be considered in the decision making.

AFTER-SALES ASSISTANCE

While the aforementioned factors are crucial and must be considered before choosing ventilators from any manufacturer, there is yet another aspect that is critical but often tends to be overlooked – the after-sales service.

Purchasing a ventilator after considering the above-mentioned aspects will become counterproductive if hospitals aren't able to avail efficient after-sales assistance. In the event of any technical glitch, hospitals need to be able to reach the technicians to fix the issue. Manufacturers that offer 24x7 technical and clinical assistance may be preferred to ensure efficient and effective usages of this life-saving equipment.

Additionally, it would also be best for hospitals to avail the AMC (Annual Maintenance Contract) or the CMC (Comprehensive Maintenance Contract). The AMC is when the manufacturer provides service either on its own or with the help of other service providers. AMCs are often valid for 1 year although they can be extended for up to 3 or 5 years.

The CMC is inclusive of the company or service provider's quick, efficient service and includes fixing or replacing defective components. In a nutshell, after-sales assistance is an integral factor that cannot be overlooked to ensure the smooth functioning of the ventilators in the long run without the hospitals having to replace the entire device in case of any defect/glitch.

PRICE VALUE AND USE CASES

In a hospital's case, the price value transcends merely losing money. It is more pertinent to the resources the hospital has to provide best-in-class care for patients, making price value integral when it comes to choosing a ventilator.

Besides, choosing ventilators that contain additional features such as High Flow Oxygen Therapy (HFOT), PRVC and PSV mode to manage patients suffering from severe respiratory illness is a must while also understanding the requirements of the device to function efficiently – such as whether the device needs any additional equipment like compressors to function as is the case with compressor-based ventilators.

Hospitals can also rely on doctor testimonials to make a more informed decisions. [HCA](#)

Also known as respirators, ventilators have seen increased demand ever since the onset of the covid-19 pandemic



Nigeria needs to address incessant strikes by doctors. **It can't afford not to**

Doctor and healthcare worker strikes are a global phenomenon reported both in highly industrialised and developing countries. Healthcare worker strikes are of growing concern for international and local health authorities. They represent a barrier to achieving the universal health coverage as envisaged by the World Health Organisation.

WHO envisions 'a sufficient capacity of well-trained, motivated health workers' to assist in achieving the United Nations sustainable development goal of ensuring "healthy lives and promote well-being for all ages."

In a recent paper I examined the issue of whether health care workers are ethically or morally justified in taking strike action.

THE KEY POINTS I RAISE ARE:

- Doctor and healthcare workers strikes are ethical and are supported by national and international laws and regulations.
- The social contract between medicine and society has been altered by the rise of consumerism in healthcare and ought to be re-evaluated.
- The main reasons doctors and health care workers strike are poor wages and working conditions, infrastructural deficiencies, personal safety and security, frequent policy changes, poor leadership; leading to disempowered and disillusioned healthcare workers.
- The primary consequences of these strikes

is not increased patient mortality, but disruption of healthcare service delivery.

- The impact of strikes by doctors and health care workers can be minimised by providing emergency and critical care to patients based on minimum service agreements before strikes.

In view of these facts Nigerians need to move beyond the issue of the legality or illegality of strikes to urgently find a lasting solution.

All stakeholders involved in health provision in the country need to put their differences aside and map a way forward to address the systemic issues facing the sector. Health care is in crisis in Nigeria. The country can't afford continue poor funding of the health sector – and incessant strikes.

BEHIND THE STRIKES

Incessant strikes have become the bane of Nigeria's health sector. In August 2021, the National Association of Resident Doctors embarked on its fourth strike within one year. They claimed that the government hadn't implemented a memorandum of understanding that had been agreed upon following previous strikes in 2020 and 2021.

Doctors and other healthcare worker strikes in Nigeria occur at national, state, and local hospital levels. Reasons for those strikes sometimes include power struggles and leadership tussles between different healthcare workers. These represent struggles for dominance or equal pay

BY SYLVESTER C. CHIMA

within the healthcare sector. They are usually supported by various groups, like the Joint Health Sector Unions, and others purporting to protect their different memberships' interest.

But there are a host of reasons beyond these tensions between unions that doctors and other Nigerian Healthcare workers have given for going on strike. They include:

- poor staff welfare,
- salary and leadership/management conflicts, and
- government's inability to implement agreements.

These factors were reflected in the communique issued by National Association of Resident Doctors in March 2021, before they embarked on their strike the next month. Strikes by doctors are usually met with public outcries, and appeals for them to abide by their ethical obligations under the Hippocratic oath .

My view, however, is that it's not that simple. Doctors are employed under agreements such as the recent Medical Residency Training Act, 2017. This means that they are employed under rules that apply to all public sector employees. Even in the private sector there are constitutionally protected bargaining rights binding on all employers and employees.

LONG-TERM RESOLUTION

Resolving the perennial doctors' strikes in Nigeria requires fiscal and ethical solutions as well as a moral commitment to improving health and welfare of all Nigerians.

All stakeholders involved in the regulation of the medical profession in Nigeria need to come to the table.

I recommend that an all-stakeholders conference would be a good start. A conference between all healthcare workers unions and Associations and government employers (both federal and State) in Nigeria is long overdue.

It would, firstly, enable all groups or unions representing healthcare workers to air their views. This would create the space for them to arrive at a unified decision binding on all healthcare workers rather than the current patchwork of grievances and actions.

The conference would need to involve a wide range of actors. This would include:

- the National Association of Resident Doctors which represents about 16,000 trainee doctors – that's 45% of registered doctors in Nigeria,
- the Nigerian Medical Association which

represents medical doctors in public and private practice,

- the Medical and Dental Consultants Association of Nigeria which represents all registered specialist/consultant doctors,
- the Medical and Dental Council of Nigeria which is responsible for registration and regulation of all Medical doctors and dentists and deployment of House Officers for Internship,
- the Joint Health Sector Unions, which represents over 90% of all other healthcare workers groups in Nigeria. These include physiotherapists, occupational therapists and laboratory scientists.

The conference should also involve those regulating and funding the medical profession in Nigeria such as government employers from both the Federal and State levels.

The conference agenda would need to include a commitment to resolve all outstanding issues, such as the 10-items raised in the National Association of Resident Doctors communique of demands of April 2021. It would also need to establish a minimum service level agreement to provide basic healthcare services during strikes.

Other issues requiring a permanent solution include increased funding for the health sector by both federal and state governments. In this case, the federal government should commit to increasing health expenditure in the federal budget to at least 5%. According to a World Bank statistics from 2018, Nigeria spent only about 3.89% of its budget on health. This is far short of the 15% of budgetary expenditure for health agreed by African heads of State during the The Abuja Declaration in 2001.

Increased funding of the healthcare sector would help the government honour agreements and memorandums of understanding between itself and all healthcare workers. It would also ensure the effective implementation of laws such as the Medical Residency Training Act.

This would go a long way towards reducing the incessant doctor and healthcare worker strikes in Nigeria. It would also move Nigeria closer to meeting global commitments to healthcare provision, including universal healthcare.

Sylvester C. Chima is an Associate Professor & Head: Programme of Bio & Research Ethics and Medical Law, College of Health Sciences, University of KwaZulu-Natal. [HCA](#)

Source: *The Conversation*

Resolving the perennial doctors' strikes in Nigeria requires fiscal and ethical solutions as well as a moral commitment to improving health and welfare of all Nigerians.



India's pharma industry vital for world's vaccination programme

India has also the largest number of FDA approved plants outside the US, nearly 2,050 WHO-GMP approved pharma plants, and a number of European Directorate of Quality Medicines (EDQM) approved plants with state of the art technology.

India's pharma and medical devices industry, the 3rd largest producer of pharmaceutical products by volume and 14th largest by value, benefits from the economies of scale derived from the huge domestic and export market, cheap labour, and low-cost manufacturing.

With its exports in FY20 pegged at US\$ 18.3 billion and a growth rate at 7.57 per cent, India meets 62 per cent of the world's vaccination requirements, and 40 per cent and 25 per cent of generic drugs in USA and the UK, respectively, underlining the country's pivotal role in catering to the world's healthcare needs.

India has also the largest number of FDA approved plants outside the US, nearly 2,050 WHO-GMP approved pharma plants, and a number of European Directorate of Quality Medicines (EDQM) approved plants with state of

the art technology.

Whereas the current market size of the medical devices sector in India is estimated to be US\$11 bn in 2020, its share in the global medical device market is 1.6 per cent. The country ranks among the top 20 global medical devices market and is the 4th largest market in this segment in Asia after Japan, China and South Korea.

This webinar, organized by EHealthworld and CADFEM, will introduce and elaborate the stand of simulation adoption for the manufacturing of APIs. It will also compel more organizations to strategize Process Analytical Techniques (PAT) for API affairs.

While both these sectors enjoy strong business fundamentals, the evolving pandemic scenario is challenging many established paradigms.

Product priorities and many longstanding supply chain arrangements may have to be

BY ABHISHEK
CHAUDHARY

To meet the efficacy and quality of the buyers, countries are vouching for API manufacturing and contract manufacturing to be co-located



rejigged. Export and import bans, along with production and price capping regulations, are a cause of concern for potential investors.

However, the pandemic has presented not only challenges but also robust opportunities for India. If the crisis has exposed a string of chinks in the healthcare system, it has also witnessed many startups rising to the occasion. They have started innovating to accelerate low-cost development by leveraging the Central government's schemes like 'Make in India', Atmanirbhar Bharat, and Production Linked Incentive (PLI) scheme. India has witnessed 33 per cent lower manufacturing cost than USA, putting the country at a high competitive advantage

A major area of concern is India's high import dependency on certain specific bulk drugs, which is as high as almost 80 per cent. Hence, the government's focus on APIs (active pharmaceutical ingredients) and bulk drugs is understandable. Notably, the PLI scheme for API has triggered much interest.

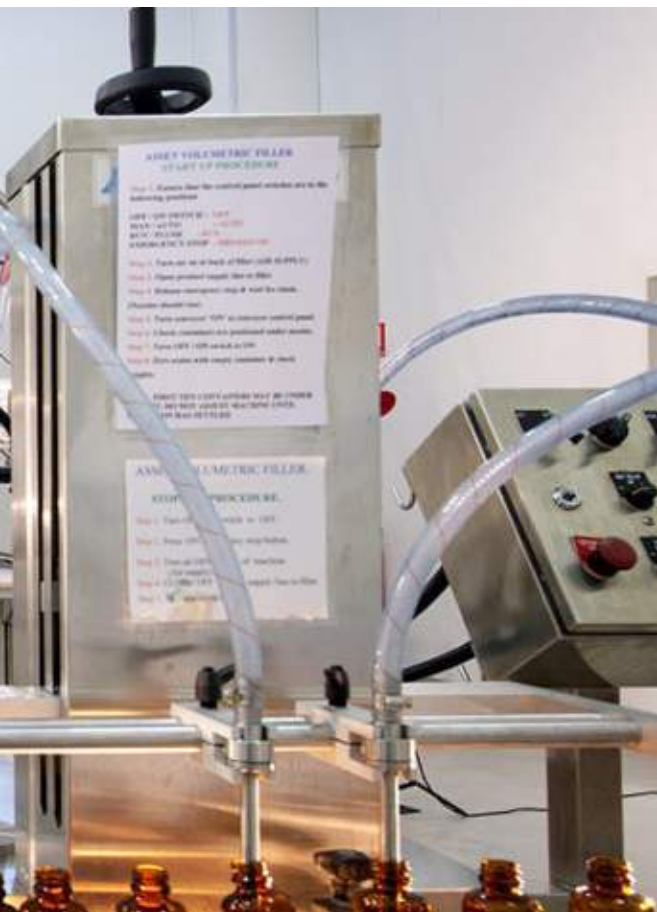
The government has so far approved 47 applications with a committed investment of Rs 5366.35 crore under this scheme, which aims to make India self-reliant with respect to bulk drugs.

Between 2022-23 and 2027-28, the scheme is expected to contribute to an incremental sale of Rs 2, 94,000 crore and total incremental exports of Rs 1, 96,000 crore.

Initiatives such as the National Biopharma Mission indicate that the potential of biologics, vaccines, and diagnostics has been recognized in the past also. However, the pandemic has underscored the need for a rapid ramp-up in manufacturing capacities and to quickly introduce new drugs and diagnostics based on biologics. The acceptance and penetration of vaccines is expected to increase for various preventable diseases.

The pandemic would not only enhance the adoption rates of COVID vaccines; it would also spur the households to consider adult vaccines more actively. This will compound the demand, which emanates from massive programmes such as universal immunization. The consequent manufacturing investment is therefore likely to be both extensive and rapid

The Indian Contract Manufacturing Organization (CMO) market was valued at US\$34.80 billion in 2020, and it is expected to reach US\$66.73 billion by 2026, at a CAGR of 9.5



The medical device sector in the country is expected to reach US\$65 bn by 2024 and become a global hub of its production.

While the opportunities are unmistakable, they also have a limited time-frame. In the formative years, most companies tend to rely on familiarity and expand in the home countries. However, most Indian companies, with significant exposure to the export market, are considering overseas destinations to de-risk operations and cater to newer export markets. Trade regulations also tend to lead many Indian companies to consider the overseas investment.

The same, however, is true for global pharma majors. FDI in pharma sector is the 9th largest in the country with a cumulative investment of US\$ 17,746 million in 2020. Thus, India provides an enabling atmosphere for domestic and overseas investors alike.

The investments in pharmaceuticals are expected to be voluminous and rapid. Past experiences show that incentives have an important role in investment decisions. Also, many of the new investments may require land suitable for red category industries.

Owing to the nature of the investments, the companies expect much flexibility concerning land pricing, payment, and contract terms. In the current scenario, where states are competing for incentives, companies would like to deal with a common agency for expeditious approvals for land and other relevant issues. It will allow companies to focus on core business aspects and achieve faster deal closure.

National Industrial Corridor Development Corporation (NICDC) nodes across the country are already in possession of suitable land for the pharma and medical devices industry, offering plug-and-play facilities. It is well placed to attract investments so that production can start in no time.

India's pharmaceuticals and medical devices industry has the resilience and robustness to trigger the country's post-pandemic economic recovery. But it also entails the need for concerted efforts towards building an industry support framework encompassing the central and state agencies to bolster India's position as the "Pharmacy of the World." **HCA**

Abhishek Chaudhary is the Vice President – Corporate Affairs, HR and Company Secretary - NICDC and promoter director at NLDS.

IN NUMBERS

US\$ 17.8M

THE CUMULATIVE INVESTMENT IN INDIA'S PHARMA MARKET AS OF 2020

per cent between 2021 and 2026. This upward growth trend is expected to skyrocket as many formulation companies in emerging markets are likely to launch their branded products while ensuring they have multiple manufacturing contracts with various vendors.

The biggest factor driving the growth of CMOs in India's pharmaceutical industry is the growing need for ultra-modern processes and production technologies, which have proven highly effective in meeting regulatory requirements.

To meet the efficacy and quality of the buyers these days, countries are vouching for API manufacturing and contract manufacturing to be co-located. According to the Cambex Study 2020, India has one of the highest numbers of CMOs with small molecule API facilities.

Both exports and imports of medical devices increased in 2019-20, with exports reaching US\$ 2.51 bn while the imports reaching US\$ 5.6 bn. The Indian medical devices sector's contribution has become a lot more prominent as the country pitched in substantially in the global battle against the pandemic by producing medical devices & diagnostic kits like ventilators, RT-PCR kits, IR thermometers, PPE kits and N-95 masks.



Antimicrobial resistance: a silent pandemic requiring global action now

If policymakers fail to address the challenge of antimicrobial resistance they risk seeing the rise of a silent pandemic, write Stella Kyriakides and Dr Tedros Adhanom Ghebreyesus.

BY DR TEDROS
ADHANOM
GHEBREYESUS AND
STELLA KYRIAKIDES

IN NUMBERS

700,000
NUMBER OF
PEOPLE WHO
DIE FROM AMR
ANNUALLY

This week, the World Health Assembly gathers to address health emergencies, including the challenge of antimicrobial resistance (AMR). While the COVID-19 pandemic has dominated headlines, other serious health threats like AMR have continued to grow unnoticed.

Unless we take action, we risk seeing a silent pandemic rising – with far-reaching consequences.

It is a fact that more and more infections are becoming resistant to antibiotics. This means it is more difficult to treat infections, and it leads to more deaths.

Together across the globe, we need to urgently strengthen our resolve and technical capacity to address this crisis, and take decisive and collective action to prevent antimicrobial resistance from becoming the next pandemic.

It is encouraging that 144 countries have now established multisectoral AMR national action

plans. But implementation in countries requires increased technical assistance and financial resources.

As we have experienced over the past year, the impact one virus can have on our lives and our economies can be devastating. So far 3.4 million lives have been lost to COVID-19, but the death toll from AMR could be higher unless there is urgent action.

We, the global community, simply cannot allow bacteria to become resistant to available medicines. We need to slow the development of resistance so that there are still effective and safe medicines that we can use to treat infections.

Antibiotics underpin much of the progress that has been made in health care in recent decades, and if these medicines are no longer effective, routine surgery and cancer treatments will become riskier, and many of the gains in addressing common community infections will be lost.



The human, economic, and development consequences would be disastrous.

Therefore, we are calling for a spirit of global cooperation and a sense of genuine urgency to prevail in tackling the rising threat of antimicrobial resistance. The time to act is now.

The threat of AMR will also significantly impact many of the goals of the 2030 Agenda for Sustainable Development. We support the growing collaboration between the so-called Tripartite Plus — FAO, OIE, WHO, and UNEP — that reflects an intensifying level of concern around the interconnected threats of animal, human and environmental health.

The European Union and WHO stand shoulder to shoulder with our international partners to face this challenge head-on. Action is required at regional and at national levels.

Under the EU One Health Action Plan against AMR, the EU has taken legislative action to ban the preventive use of antibiotics in animals, reserve some antimicrobials for human use only, and extend the EU ban on the use of antibiotics as growth promoters in animals.

COVID-19 has taught us all some harsh lessons: the critical need to strengthen health systems in all countries, the need to strengthen emergency preparedness, and the vital importance of global solidarity.

The greatest threats facing us — from climate change to the rise of antimicrobial resistance — are shared ones. They are also interconnected. We must face them together, with each country strengthening their national response but doing so in concert with one another.

We must see AMR for what it is: a common

threat requiring a common response. The European Union and the WHO, together with the other partners of the Tripartite Plus, stand shoulder to shoulder with our international partners to face this challenge head-on.

Important steps have already been taken at the global level to raise awareness and increase political commitment, such as the establishment of the AMR Global Leaders Group, the Global Health Summit declaration, or the plan of the Tripartite Plus organisations to launch a partnership platform for AMR action.

Similarly, members of the G7 and G20 have repeatedly committed to work together in tackling AMR.

We are pleased that AMR will feature prominently at the next G7 summit with proposals that differentiate antibiotics from other medicines, including valuing and reimbursing them in specific ways.

We welcome this first step. The EU and the Tripartite Plus organisations will propose an AMR-solutions-focused discussion at the UN Food Systems Summit in September 2021.

We should join forces now and work towards a comprehensive Global Action Plan on AMR looking at animal health, human health, plant health and environmental concerns, with a One Health approach at the centre.

We have the means at our disposal to combat AMR at a global level, but to achieve this our response must be organised, dedicated and translated into action in all countries. Now is the time to be ambitious and take concrete action. **HCA**

Source: EURACTI

The threat of amr will also significantly impact many of the goals of the 2030 agenda for sustainable development



Africa's Shot at Local Pharma Production

Wider availability of locally made medicines would strengthen African health systems, analysts say.

BY ALISON BUCKHOLTZ

During the COVID-19 pandemic, small pharmacies and large medical stores in Rwanda ran out of stock.

In South Africa, it became nearly impossible to fill prescriptions for psychiatric drugs and oral contraceptives.

In Kenya, oncologists complained about challenges treating their cancer patients.

And in Nigeria, stocks of treatments to manage chronic illnesses, including HIV medicines, dipped critically low.

Margaret Ilomuanya, Editor-in-Chief of the Nigerian Journal of Pharmacy and a Senior Lecturer in the Department of Pharmaceutics and Pharmaceutical Technology at the University of Lagos, doesn't blame the foreign governments that halted their pharmaceutical exports during the pandemic—which triggered shortages of medications across Africa.

Instead, she and an ever-growing number of health-care practitioners, regional organizations, and industry analysts back a solution that has been gaining strength for over a decade. They

want to build pharma manufacturing capacity on the African continent.

"Africa must begin to produce medicines for Africa, with raw material produced in Africa," she said. "There's a big risk in relying on elaborate global supply chains in which the supply of many essential and critical drugs is dependent on overseas suppliers. We have the wherewithal to build the local pharmaceutical industry, and we have the hands. We can take it from bench to bedside."

The potential benefits of Africa-based pharma production have been recognized for years. The Pharmaceutical Manufacturing Plan for Africa, rolled out in 2005 by the African Union Development Agency, created a business plan to boost local pharmaceutical production and improve public health outcomes. Other strategies to promote African pharmaceutical manufacturing include initiatives from the African Medicines Agency and the African Vaccine Regulatory Forum. In late May, 54 African countries co-sponsored a resolution on



the local manufacturing of medicines, medical technologies, and vaccines that was presented at the WHO's World Health Assembly.

What's different now is that the pandemic has captured the attention of investors who have noted the imbalance between supply and demand in the pharmaceutical sector, said Frannie Leautier, CEO of SouthBridge Investments, a pan-African investment bank. Africa's lack of essential medicines and active pharmaceutical ingredients (APIs) during the pandemic "had implications on the pharma and health sector in Africa over and above the direct effects of COVID-19," she said. Since the crisis began, "a lot of thinking about the demand side has been happening at the country and regional level, and also among investors who want to bridge that gap for pharmaceutical products. Investors are looking at Africa with new eyes."

LOCAL PRODUCTION CAN "FILL THE GAP"

The scarcity of pharmaceuticals in Africa has been a problem for decades. Roughly half the population of 1.1 billion people lack regular access to even the most essential medicines, according to the WHO. The COVID-19 pandemic has undermined recent progress on access to HIV, malaria, and tuberculosis medicines as well as to reproductive, maternal, and newborn treatments and medicines, said Jean-Baptiste Nikiema, a doctor who leads the medicine supply team at the WHO's regional office in the Republic of Congo.

In-country production of generic drugs could help ensure access and affordability, according to Subir Basak, Senior Life Sciences Specialist

at IFC. Generic medications are manufactured by pharma companies that receive permission from a major pharmaceutical company to create their own version of the drug, and they are typically less expensive than the original branded medication. Wider availability of generics would offer people affordable treatment choices and lessen African health systems' vulnerability to supply chain disruptions, Basak said.

But Africa has very few local or regional pharma manufacturing companies. There are roughly 375 drug makers, most in North Africa, to serve a population of just over 1.1 billion people. Those in sub-Saharan Africa are clustered largely in nine of 46 countries, a 2019 report from McKinsey noted. (By comparison, according to the report, China and India, each with roughly 1.4 billion in population, have as many as 5,000 and 10,500 drug manufacturers, respectively.)

To establish an environment for API production and local pharma manufacturing in Africa, IFC is working in several countries to "put together the components needed" for a mature pharmaceutical industry. This involves partnering with local and international pharmaceutical companies to co-create projects, identify technical partners, and develop commercially viable projects and financing structures, said Zeynep Kantur, Principal Investment Officer for health projects at IFC. "COVID-19 showed us how vulnerable countries in Africa are, and how local API and pharma facilities can fill a long-term gap," she said.

Senegal-based Institut Pasteur, the only WHO-certified vaccine site in Africa, is

Africa must begin to produce medicines for Africa, with raw material produced in Africa. It is too costly to rely on global supply chains



already embarking on a program to accelerate production of COVID-19 vaccines in Africa. Building capacity there will benefit the region, post-pandemic, because such an effort can be scaled and repurposed to produce other drugs and vaccines needed in the region, according to Kantur. Currently, only 1 percent of vaccines needed in Africa are produced in Africa.

IN NUMBERS

US\$
40B
VALUE OF AFRICA'S
PHARMACEUTICAL
INDUSTRY

POTENTIAL VS. PRODUCTION

Notable changes have made the continent a “much more viable market for manufacturing pharmaceutical products than it was a decade ago,” Leautier said. “Many countries now have social security systems and insurance systems that pay for health care, so it is a more structured market, with people able to afford longer term treatments.” That progress, along with Africa’s growing population and the necessity of specialized treatments for diseases that are highly concentrated in Africa, such as waterborne diseases, malaria, tuberculosis, HIV, and AIDS, “make strong arguments in favor of local pharmaceutical manufacturing.”

However, IFC research shows that the African pharma manufacturing facilities now in operation are not at the right stage of maturity to attract investors and scale up production. The elements of success, according to this research, include economies of scale, access to technology and know-how, strong supply and distribution

networks, government incentives, and access to investment capital.

Nigeria, the most populous country in Africa and one of the countries with the greatest potential for rapidly scaling up pharmaceutical and API production, is not yet where it needs to be, said Jude Nowokike, Vice President and Director of the Promoting the Quality of Medicines Plus (PQM+) Program at USP, a scientific nonprofit organization focused on building trust in the supply of safe medicines.

Pharmaceutical manufacturing production in Nigeria currently utilizes around 40 percent of actual installed capacity, Nwokike said. The obstacles, he believes, include challenges in sourcing active pharmaceutical ingredients and raw materials, along with a lack of available investment to scale up operations, modernize equipment, and resolve local infrastructure limitations.

THE ROLE OF REGULATION

Regulatory reform is also essential to progress, said Tania Holt, a global public health and pharma expert at McKinsey. Attention to regulatory standards is especially important because Africa accounts for around 42 percent of the world’s cases of sham drugs.

In addition to contributing to more stable health systems and supporting a domestic manufacturing sector that addresses issues of access and affordability, a stable regulatory environment can attract long-term financial support. Regulatory standards are key to attracting investors “because investors want certainty, and regulation, verification, and certification provide that certainty,” Leautier said. Such standards and accountability mechanisms also “buffer against significant consequences when things go wrong and help deal with emerging risks. Otherwise, it is very difficult to function.”

Multilateral organizations have a “huge role” to play in supporting the development of domestic pharma operations in Africa, Nwokike said. For example, not every country in Africa needs to have the capacity to produce every medication, and multilaterals can help determine which nations and regions can share capacity.

“There should be a reliance on regional neighbors based on their separate strengths, with manufacturing closer to the people who the medicines are serving,” he said. “This is what builds confidence in health systems.” **HCA**

Source: IFC

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