

NOVARTIS IN AFRICA

AFRICARISE

FOCUSING ON PATIENTS, FUELING GROWTH

The background of the slide is a photograph of a city skyline at sunset. In the foreground, there is a grassy park area with some trees and a paved path. The city skyline in the background features several tall buildings, including a prominent one with a spire. The sky is filled with soft, orange and yellow clouds from the setting sun.

AT A GLANCE: NOVARTIS IN AFRICA

Novartis has a long-standing relationship and commitment to Africa, with decades of experience on the ground. Today, we are the third-largest multinational healthcare company on the continent, and we aim to become the leading healthcare company by tripling access to our medicines by 2018.

Our portfolio of high-quality medicines is suited to address Africa's double disease burden of infectious and noncommunicable diseases. Our innovative pharmaceutical products cover a wide range of therapeutic areas including antimalarial, cardiovascular and diabetes medicines, as well as transplant, oncology and epilepsy. Our portfolio also includes high-quality affordable generics, through Sandoz, and eye care products, through Alcon.

Across the continent, we pursue a combination of approaches to reach more patients – core business, shared value, zero profit and philanthropy – tailored to local needs. We are also making long-term investments in people, science and medical infrastructure to strengthen healthcare systems and improve health outcomes in Africa.

3RD

**LARGEST
MULTINATIONAL
HEALTHCARE
COMPANY IN
AFRICA**



689

**EMPLOYEES IN
SUB-SAHARAN AFRICA**

WE ARE  HERE



**PRESENT IN 43
SUB-SAHARAN
COUNTRIES
WITH 4 COUNTRY
GROUPS AND
7 REP OFFICES**

**454
MEDICINES**

and products from Pharmaceuticals,
Alcon and Sandoz approved in sub-
Saharan Africa in 2013



700  MILLION

antimalarial treatments delivered
to patients in sub-Saharan Africa
since 2001

AFRICARISE

Focusing on patients, fueling growth



Seven of the world's 10 fastest growing economies are projected to be in Africa during the next five years¹. A burgeoning middle class. Growing technology use. It's an exciting time for Africa, and there are significant business opportunities for companies that can meet local needs with the right business models. As a leading global

healthcare company, Novartis has the scale and expertise to improve health outcomes for patients in Africa. With decades of experience on the continent, we recognize the unique opportunities and challenges and are eager to be part of Africa's rise.

Africa faces a complicated mix of new and persistent healthcare challenges. Many patients battle infectious diseases like malaria, leprosy, HIV, tuberculosis and hepatitis; meanwhile, longer life expectancy has increased the prevalence of noncommunicable diseases (NCDs), like heart disease, diabetes and cancer. NCDs are projected to overtake infectious disease as the leading cause of death in Africa by 2030². By then they will account for 42% of all deaths in sub-Saharan Africa, up from 25% today, according to the World Health Organization.

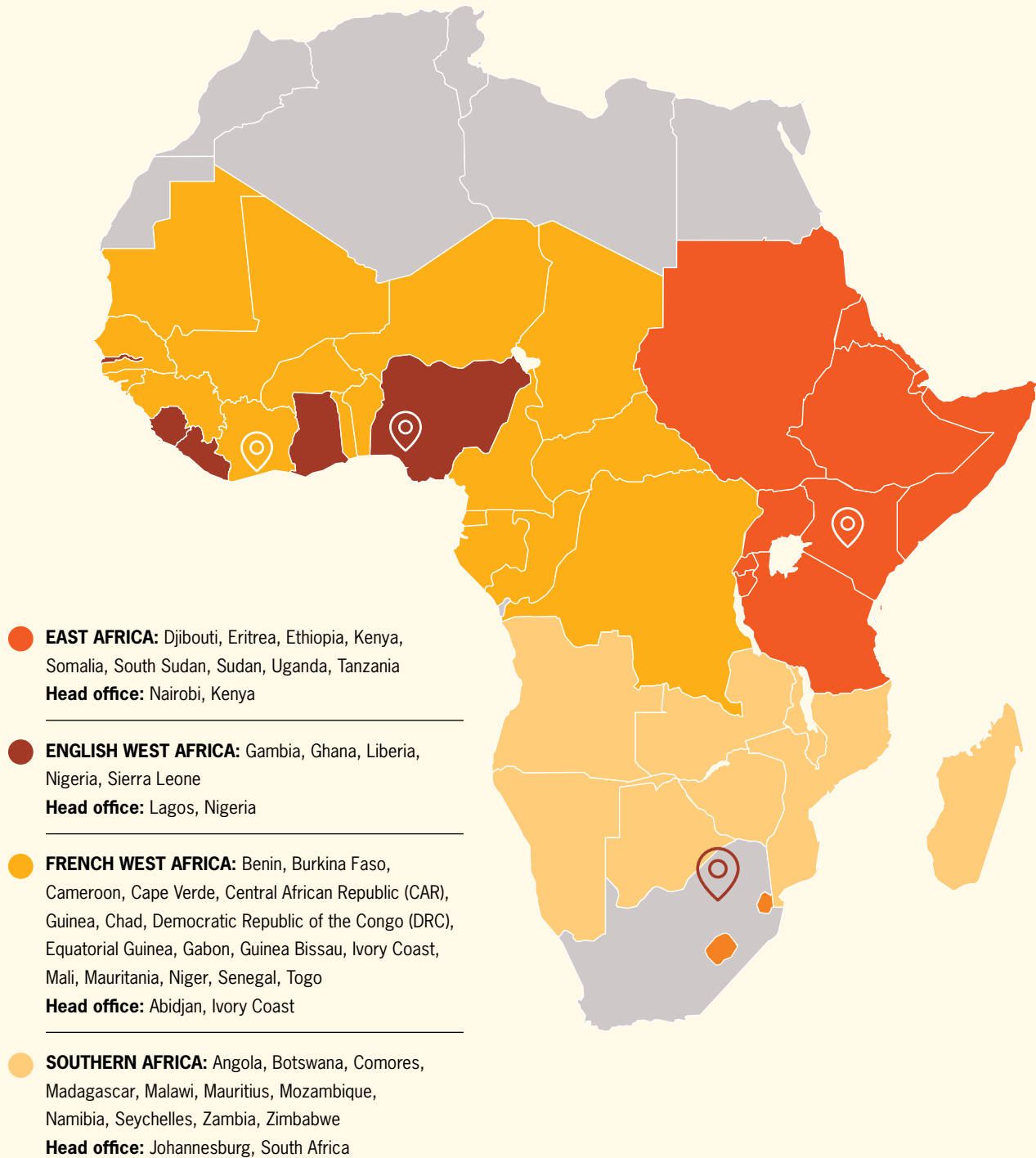
The scale and expertise within our company makes Novartis well-positioned to tackle these diverse healthcare challenges. Our Pharmaceuticals Division is one of the largest pharmaceutical operations in the world, Sandoz offers one of the most extensive portfolios of generics and Alcon provides access to high-quality eye care. These divisions receive support from our global research organization, the Novartis Institutes for BioMedical Research (NIBR), enabling us to bring innovative, high-quality and affordable medicines and therapies to patients.

We are focused on building African talent and developing differentiated business models adapted to economic realities. We are also working with governments on ways to strengthen healthcare systems. This approach will not only improve patient outcomes, but also expand our presence on the continent in a way that contributes to economic growth. Our Social Ventures are just one example of how we are innovating to achieve this vision. Having seen firsthand the positive impact these new business models have, I am convinced that Novartis can be the partner of choice we aspire to be.

Mahesh Karande,
President and Head of Africa Cluster for Novartis

NOVARTIS IN SUB-SAHARAN AFRICA

HEAD OFFICE AFRICA CLUSTER: JOHANNESBURG, SOUTH AFRICA



Reaching more patients through new business models



Africa presents unique opportunities and challenges. Because the context differs significantly from other regions where we operate, we deploy a mix of models adapted to local conditions.

Our approaches include philanthropic donations, zero-profit solutions, social business models and tiered pricing models – all of which aim to help more patients access our medicines and improve health outcomes. No two communities or countries are identical, so we design programs to fit local needs.

In Africa, Novartis offers an extensive drug portfolio covering infectious and noncommunicable diseases, with a focus on therapeutic areas including antimalarial, cardiovascular, and diabetes medicines, as well as transplant, oncology and epilepsy.

In addition, through our generics division,

Sandoz, we are bringing high-quality generic drugs to Africa, making treatment more affordable for patients. We received approvals for over 380 generics across sub-Saharan Africa in 2013 and are striving to make more medicines from the World Health Organization's List of Essential Medicines part of our offering. For more than five years, all Sandoz global development projects for generic medicines targeting countries with tropical climate conditions have included Zone IV stability research targets. Also, in support of the United Nation's Every Newborn Action Plan, Sandoz is providing the UN a child-friendly formulation of antibiotic amoxicillin (250mg dispersible tablets) for children suffering from pneumonia, a leading cause of child mortality in Africa³.

Although rapid economic progress has created a growing middle class, for many communities, financial concerns remain a major obstacle to accessing quality medicines. We have created the *Familia Nawiri* (Swahili word for Healthy Family) program in Kenya to address this challenge. Based on four pillars known as the “4 As” (Awareness, Accessibility, Affordability and Adaptability), this Social Venture helps expand access to affordable quality medicines among the rural poor. *Familia Nawiri* also works to educate local residents about their health and build infrastructure and distribution networks to improve access in a sustainable way.



More and more people in Africa are turning to the private sector for their medical needs, often because they are either unable to travel to far-away public facilities or because they have grown weary of drug shortages and long waiting lines. In fact, more than half of patients in Africa now purchase their antimalarial treatments at small pharmacies, patent medicine stores and general stores. Yet too often, these stores dispense obsolete or substandard medicines.

In 2012, we launched a new private-sector access program in nine malaria-endemic countries, lowering the price of our antimalarial to make it more affordable to patients. These countries were chosen based on multiple criteria including high unmet medical need, lack of access to quality artemisinin-based combination therapies (ACTs) in the private sector, or low access to ACTs through public health systems.

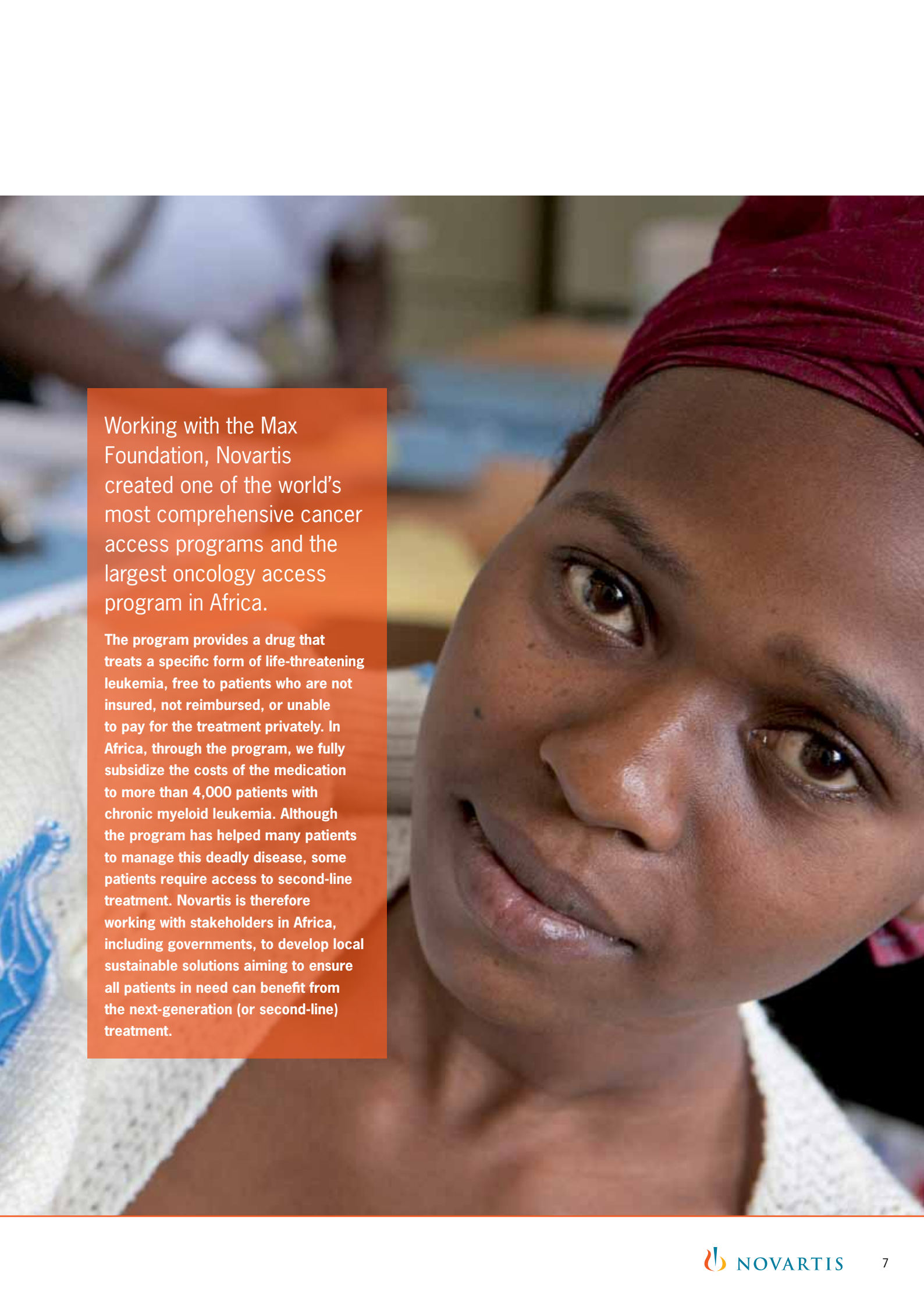


The incidence of cancer is rising rapidly across sub-Saharan Africa. Inadequate levels make the disease in the region more likely to be fatal than in most other countries. Five-year survival rates are far lower in sub-Saharan Africa than in other parts of even the developing world. As a testimony of its engagement in this critical field, Novartis created a dedicated unit focusing on cancer in the region in 2013. This new structure has a dual objective: further support the development of capabilities to manage cancer patients and create a sustainable business long-term. Our approach is based on partnerships with healthcare professionals, governments and other stakeholders to build a coalition that can ultimately benefit patients.



Novartis is also piloting a new pricing approach for other selected products to make medicines more affordable and increase patient access in the private sector.

One such example is our drug to slow vision loss in people suffering from retina disease such as diabetic macular edema (DME) or wet age-related macular degeneration (AMD). In Nigeria, we conducted a price sensitivity test in four pilot centers offering the medication at a discounted price and ensuring the discount was fully passed on to patients. As a result, today 50% of the patients requiring the treatment in these pilot centers have access to the drug.

A close-up portrait of a woman with dark skin, wearing a red headwrap and a white garment. She is looking slightly to the side with a gentle expression. The background is blurred, showing what appears to be a clinical or hospital setting.

Working with the Max Foundation, Novartis created one of the world's most comprehensive cancer access programs and the largest oncology access program in Africa.

The program provides a drug that treats a specific form of life-threatening leukemia, free to patients who are not insured, not reimbursed, or unable to pay for the treatment privately. In Africa, through the program, we fully subsidize the costs of the medication to more than 4,000 patients with chronic myeloid leukemia. Although the program has helped many patients to manage this deadly disease, some patients require access to second-line treatment. Novartis is therefore working with stakeholders in Africa, including governments, to develop local sustainable solutions aiming to ensure all patients in need can benefit from the next-generation (or second-line) treatment.

Partnership holds the key to success in Africa



To improve healthcare in Africa, we need to get more medicine to more people. Africa's healthcare challenges are too diverse and complex for any single organization to solve alone, so we work with a range of partners. We've seen how successful this approach is through our Malaria Initiative.



We have delivered more than 700 million antimalarial treatments mostly through the public sector in malaria-endemic countries in just over a decade, by leveraging the expertise and resources of our many nonprofit partners and in close collaboration with African governments. In that time there has been a significant reduction in mortality from malaria, especially

among infants and children. From 2000 to 2013, malaria mortality rates fell by 47% around the world and by 54% in Africa alone⁴.

Alcon, our eye care division, collaborates with nonprofit organizations active in Africa, including Mercy Ships and Orbis, to address the substantial unmet surgical and medical eye care needs of thousands of people in West and East Africa, providing training and development to local surgeons. Through product and equipment donations, Alcon supports over 100 medical mission teams who treat more than 100,000 patients annually throughout sub-Saharan Africa.

We are currently implementing a project to establish a potential Chronic Disease Foundation with IBM and Vodacom in South Africa as a complement to the government's work to strengthen the healthcare system. The project would aim to improve care for chronic disease patients by providing public sector community health workers with coordinated care capability using mobile technologies. If implemented, this grassroots approach could make a big difference in ensuring patients of all incomes access the right care at the right time.

In many African countries, challenges in the supply chain make it difficult to get medicine to patients. Through SMS for Life, we have pioneered the use of mobile phone technology to help expand access to medicines in the most remote areas. Spearheaded by Novartis with public and private partners under the umbrella of the Roll Back Malaria Partnership, the program was established to eliminate stock-outs of antimalarials in public health facilities in sub-Saharan Africa. What makes this solution unique is its flexibility; it is scalable to support additional health facilities, countries and products at an operational cost of less than USD 80 per health facility per year. Today, SMS for Life has been introduced in five African countries. A new enhanced solution is being piloted in Nigeria that uses tablet computers to provide data on stock levels and disease surveillance, while also offering training in disease management to healthcare professionals.

Further, we have launched an m-health pilot in the private sector in Nairobi and Mombasa, Kenya, to better understand the supply chain cycle and build capabilities to ensure Novartis medicines reach patients at the right time. Pharmacists register their patients for surveys via SMS, and the survey results help us to map out patients' locations and redistribute medicines to areas where they are needed most.



Healthcare worker using mobile phone for consultation in Ghana.

Advances in technology create new ways to reach patients and train healthcare professionals. The Novartis Foundation works to create sustainable health service models and improve access to quality healthcare in low- and middle-income countries. It is currently collaborating with partners, including the Millennium Villages Project, the Ghana Ministry of Health and the Ghana Health Service, to pilot a groundbreaking telemedicine program in six underserved villages in Ghana, where many residents are battling malaria,

anemia, malnutrition, tuberculosis and HIV/AIDS. In the past, community members had to travel long distances to receive specialized medical attention. Through a series of partnerships, the telemedicine program extended mobile networks and equipped community health workers with new tools and training that have brought skilled medical care directly to the communities, eliminating the need for patients to undertake long, costly and sometimes dangerous trips to receive medical attention. The Novartis Foundation has supported the training of community workers to use the equipment and receive virtual support from specialists anytime they need medical advice or when emergencies arise.

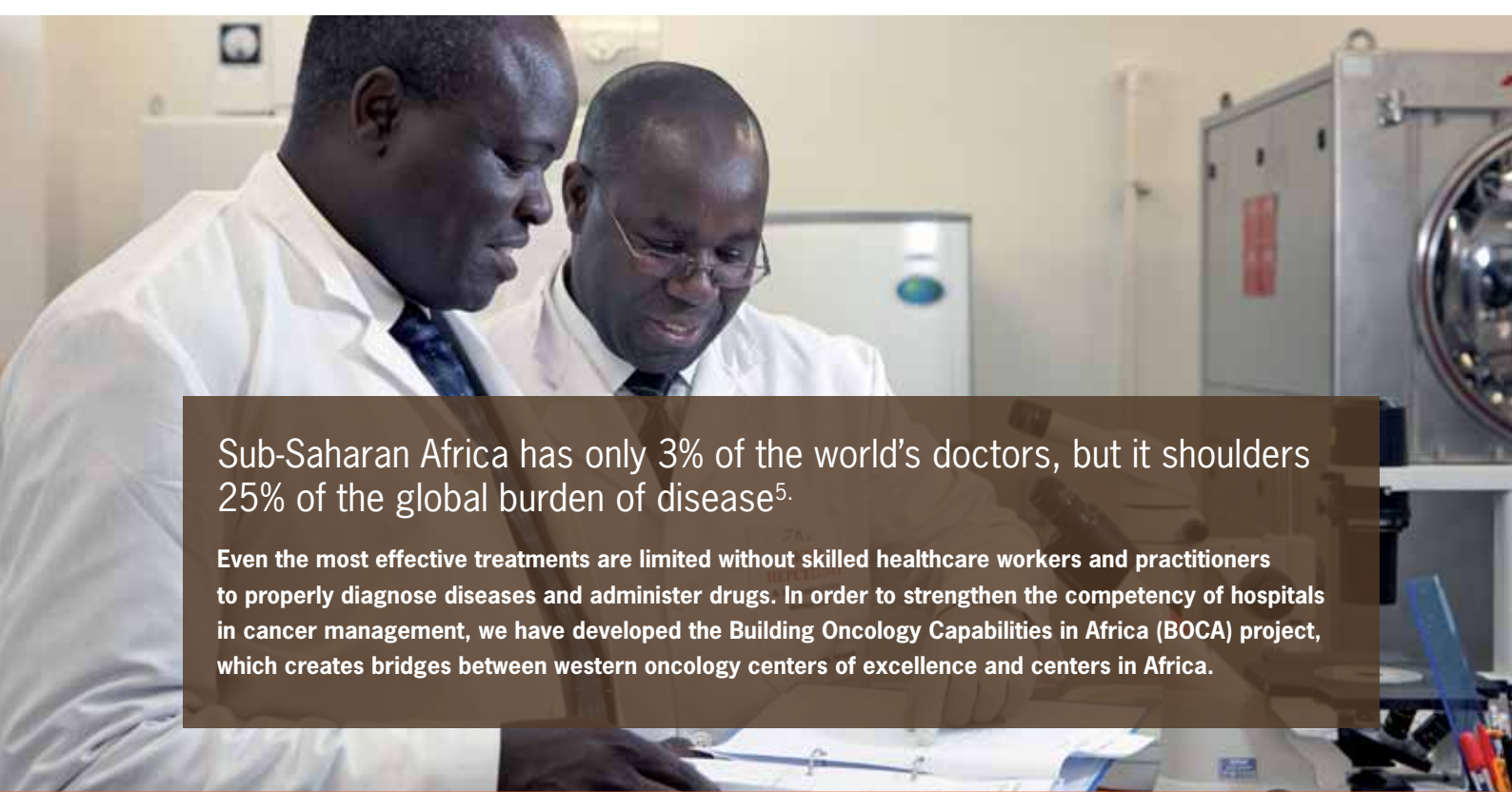
Building a world-class workforce

Africa needs a talented healthcare workforce with the skills and understanding to develop healthcare products and solutions that benefit patients. Building local talent is a top priority for Novartis – the sooner we do so, the sooner we can bring the right medicines to patients and the sooner we can grow our business, as well.

The Novartis Africa University, launched in 2013, has been established to grow local African talent and leaders. The Africa University's curriculum is designed to build capabilities needed to deliver on the company's strategy on the continent. To build clinical competence, we are running several programs to help train the next generation of African scientists and clinicians to advance innovations that will meet Africa's healthcare needs. Our scientific exchange programs offer African researchers the opportunity to spend time in a Novartis lab in Europe or the US. We also send Novartis

scientists to teaching hospitals, research institutes and universities in Africa to study local diseases and build their understanding of the African healthcare system.

Our collaboration with H3D, the first drug discovery and development center in Africa based in the University of Cape Town, South Africa, helps build local capabilities in malaria, tuberculosis and cardiovascular research. In turn, H3D will enable researchers from sub-Saharan countries to conduct their own clinical trials and develop medicines to address diseases in local populations.



Sub-Saharan Africa has only 3% of the world's doctors, but it shoulders 25% of the global burden of disease⁵.

Even the most effective treatments are limited without skilled healthcare workers and practitioners to properly diagnose diseases and administer drugs. In order to strengthen the competency of hospitals in cancer management, we have developed the Building Oncology Capabilities in Africa (BOCA) project, which creates bridges between western oncology centers of excellence and centers in Africa.



Leveraging and building scientific expertise on the ground

In several African countries, the regulatory approval process for medicines remains a challenge as there is a need to increase scientific and technical proficiency among regulatory authorities.

We believe that building this knowledge will ultimately improve access to quality medicines for African patients by contributing to a more robust and effective evaluation process for medicines. For instance, in order to facilitate knowledge exchange regarding the regulatory assessment of biologics and biosimilars, we organized the first Biotechnology Forum with the African Institute of Biomedical Science and Technology. Held in Zimbabwe, the forum brought together experts from the WHO, regulatory agencies, industry and academia.



An estimated 1.4 million deaths in Africa stem from rheumatic heart disease (RHD)⁶

RHD, which is caused by untreated streptococcal infections, has been eliminated in most developed nations, but in sub-Saharan Africa it is a major cause of morbidity and mortality in young adults and children over age five. In collaboration with the Zambian Ministry of Health, the University Teaching Hospital in Lusaka and the Pan-African Cardiology Society, Novartis supports training of Zambian healthcare workers, teachers and families to raise awareness about the connection between strep throat and RHD. The collaboration will also generate data on the prevalence of the disease by screening 3,000 Zambian children and is intended to help strengthen the health systems by enrolling local clinics to provide primary and secondary prevention programs.



About 100,000 deaths per year in Africa are linked to the counterfeit drug trade⁷. Savvy counterfeiters have made it nearly impossible for patients and healthcare workers to know which drugs are authentic. In an effort to stem the harm caused by these substandard or counterfeit drugs, Sandoz and its affiliated company 1A Pharma teamed up with Ethiopian authorities and key local and international stakeholders to support the establishment of a bioequivalence center in Addis Ababa. The first of its kind in East Africa, the center will provide crucial testing technology and services to ensure the safety and efficacy of generics being distributed in the region. In Kenya and Tanzania, working with local ministries of health and university teaching hospitals, The Novartis Institutes for BioMedical Research (NIBR) supported the set-up of Phase I clinical study sites. These sites enable local healthcare workers to carry out bioequivalence or clinical pharmacology studies that assess drug quality and pharmacogenetic differences among diverse populations, respectively, with a focus on cardiovascular medications.

In the Ivory Coast, Novartis supported the creation of the first center for kidney transplantation where 10 patients have now been successfully transplanted.

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ABOUT NOVARTIS

Novartis provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care and cost-saving generic pharmaceuticals. Novartis is the only global company with leading positions in these areas. For more information, please visit www.novartis.com.

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