Access to healthcare

“The moment you think about a new drug, you need to start thinking about how to take it to the rest of the world. Of course there are limitations, but these should not be based on where the patient lives.”

Pat Garcia-Gonzalez, CEO, The Max Foundation

2017 highlights

• Novartis Access Principles were approved; at their core is a commitment to integrate patient access strategies into all of our new medicine launches
• Novartis Access signed agreements in three countries, bringing the total to six, and delivered more than 685,000 treatments to patients in lower-income countries
• Novartis signed agreements with key partners to improve the management of cancer in sub-Saharan Africa
• The Glivec International Patient Assistance Program transitioned to CMLPath to Care™
• Sandoz received approval for two biosimilars in the EU
• The Novartis Foundation launched the Better Hearts Better Cities initiative, and its telemedicine program continued rolling out across Ghana

Key challenges

• Procurement processes that do not support a portfolio approach, outdated national essential medicines lists, and skepticism toward private companies present barriers to the uptake of Novartis Access in the public sector
• Rising generic competition in the treatment of malaria drives a decline in our patient reach with Coartem
• Most healthcare systems in lower-income countries are geared toward acute care and are ill-equipped to address the needs of chronic patients
• A lack of basic healthcare infrastructure, equipment, clinics and hospitals, efficient distribution networks, medical staff and trained healthcare providers all present challenges for access to healthcare
• The stigma associated with certain diseases, such as cancer, prevents patients from promptly seeking a diagnosis
**Why it is important**

While significant progress has been made in tackling some of the world’s greatest healthcare challenges, billions of people still lack adequate access to healthcare. This challenge will only grow – especially in developing countries – as aging populations, rapid urbanization and poor lifestyles contribute to a massive increase in non-communicable diseases (NCDs), in addition to the ongoing burden of infectious diseases.

Already today, 31 million people die each year from NCDs in low- and middle-income countries, representing nearly 75% of deaths from NCDs globally. Moreover, many of these NCD-related deaths occur before the age of 60, which causes immense social and economic loss. Faced with managing both NCDs and infectious diseases, these countries now have a double disease burden.

Affordability and availability of medicines is just one aspect of the access problem in developing countries. Solving the access challenge will require improvements to other elements that make healthcare systems function, such as the capacity to detect, diagnose and treat patients, and develop efficient distribution channels.

**How we approach it**

We are continuing to work to expand access to healthcare through a variety of approaches that provide tailored and scalable solutions: social business initiatives, equitable commercial models, zero-profit models, patient assistance programs and drug donations. Our generics division, Sandoz, also helps make high-quality generic medicines and biosimilars available to more people.

In 2016, our access strategy was recognized by the Access to Medicine Index as a solid framework that can be adapted to the needs of people across income segments and as a best practice in the industry. We believe, however, that we can be even more systematic in implementing it throughout our business. In 2017, we therefore established a set of Access Principles that clarify our approach to access. These will go into effect in 2018.

At their core is a commitment to integrate patient access strategies into all of our new medicine launches. These strategies will be based on three key principles: systematically assessing our research and development portfolio against the unmet needs of underserved populations, further improving the affordability of our medicines, and systematically assessing our efforts to strengthen local healthcare systems. In 2018, the CEO and ECN members will have an access objective as part of their individual objectives.

We believe that by adopting these Access Principles, we will further embed access in the heart of our business. This will help ensure a more consistent implementation of access strategies across products and countries. For details on how we manage our access efforts, see the governance section (pages 10 and 11).

We continue to engage in strategic donations to address access gaps for neglected diseases and people at the bottom of the pyramid. Please see the table on page 45 for data on our philanthropic donations.

We believe in the power of partnerships to help effectively address barriers to access to healthcare. Early in 2017, Novartis joined 22 pharmaceutical companies to launch Access Accelerated, a global initiative to advance access to treatment and care for chronic diseases in lower-income countries, in collaboration with the World Bank Group and the Union for International Cancer Control. Working together across the industry, healthcare systems and sectors, we believe we can increase our impact and truly answer the call to partnership outlined in UN Sustainable Development Goal 17.

**Novartis access strategy**

<table>
<thead>
<tr>
<th>Income segments</th>
<th>% of population size</th>
</tr>
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<tbody>
<tr>
<td>High income</td>
<td>7%</td>
</tr>
<tr>
<td>Upper-middle income</td>
<td>9%</td>
</tr>
<tr>
<td>Middle income</td>
<td>13%</td>
</tr>
<tr>
<td>Low income</td>
<td>55%</td>
</tr>
<tr>
<td>Poor</td>
<td>16%</td>
</tr>
</tbody>
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1 PEW Research Center with data from World Bank PovcalNet (data 2011)

**Novartis access approaches**

- Generics, original brands, patient assistance programs, tenders
- Equitable commercial models
- Generics
- Social business models
- Patient assistance programs
- Zero-profit models
- Strategic philanthropy
- Tenders
- Donations, strategic philanthropy, tenders
Availability of medicines

Our key programs continue to make inroads in driving accessibility of our medicines. Because chronic illnesses require early detection and long-term, ongoing treatment, we need new ways to ensure access to affordable medicines for NCDs in countries where people often have limited resources. At the same time, additional efforts are needed to secure the gains and further accelerate progress toward the treatment and elimination of infectious diseases. Novartis has a long history of activity in this area, with a focus on neglected tropical diseases such as malaria and leprosy. Ensuring good health and well-being (Sustainable Development Goal 3) is at the core of our business, and we are committed to playing a role in helping end the epidemic of infectious diseases such as malaria and reducing premature mortality from NCDs.

Novartis Access offers a portfolio of medicines to address cardiovascular diseases, diabetes, respiratory illnesses and breast cancer. Launched in 2015, the portfolio is available to governments, NGOs and other public sector healthcare providers in lower-income countries at a price of USD 1 per treatment, per month. In addition to providing affordable treatments, Novartis Access works with partners on the ground to improve prevention and diagnostic capability (see page 22). The program is integrated into Novartis Social Business, a unit that also includes the Novartis Malaria Initiative and the Novartis Healthy Family programs.

In 2017, we signed agreements with three countries to launch Novartis Access, bringing the total to six: Kenya, Ethiopia, Rwanda, Uganda, Pakistan and Cameroon. During 2017, we were able to deliver more than 685 000 treatments, each providing a one-month supply of medicine, to patients in Kenya, Ethiopia, Lebanon and Cameroon. Since the launch of Novartis Access in 2015, more than 800 000 treatments have been delivered to these countries. Preparing the ground for future country rollouts, 502 product submissions have been filed with health authorities for marketing authorization in 24 countries, with 221 approvals to date.

While the number of patients reached has increased from approximately 8 000 in 2016 to more than 386 000 in 2017, and we can be proud of our achievements, the rollout of Novartis Access has not been as swift as anticipated. Moving from single product sourcing to portfolio procurement continues to be the biggest hurdle for countries. Further, as purchasing decisions are decentralized in many countries, this causes delays in the program rollout. Another important learning is that we need to expand into the private sector at a faster pace. The decision to distribute Novartis Access medicines through public channels was made early on to help ensure our treatments reach target populations at affordable prices. However, results from a baseline study conducted in Kenya by Boston University underline certain flaws in this logic. While more than 50% of chronic diseases are diagnosed in the public sector, more than 40% of patients actually buy their medicines in the private, for-profit sector.

Against this background, we will pilot a new approach in the private sector in the coming months, targeting patients in a vast slum area around Nairobi, Kenya, who lack private health insurance or coverage. We will partner with the Abraaj Group, a private equity group investing in programs with social impact. On a larger scale, as of January 2018, we will be present in the public and private market in seven countries offering Novartis Access medicines as well as the entire Novartis product range registered locally, either as a portfolio or as individual products. We hope this enhanced flexibility will enable us to better respond to country needs across all income levels. In parallel, we will continue rolling out Novartis Access in 30 countries as per our original strategic plan, and we are already in advanced discussions with three Asian and seven African countries.

Despite changes in the marketplace over the years and the growing presence of generics, the Novartis Malaria Initiative remains one of the industry’s largest access-to-medicine programs. Since 2001, it has provided – without profit – more than 850 million treatments for adults and children in over 60 malaria-endemic coun-

### Availability of medicines performance indicators

<table>
<thead>
<tr>
<th>Patients reached (thousands)</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novartis Access</td>
<td>386.5</td>
<td>8.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Malaria/Coartem</td>
<td>43 675.0</td>
<td>49 757.9</td>
<td>64 097.7</td>
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</table>

1 The patient number was calculated based on treatments delivered and the following elements: daily treatment doses, treatment duration, treatment adherence and potential treatment overlap (as it is common for chronic patients to take several drugs). The treatment adherence and treatment overlap factors are based on assumptions from developed markets and will be revisited when we gain additional insights from Novartis Access rollout countries.

4 Increased availability of generic options on the market
tries, contributing to a significant reduction in the death toll from malaria. In 2017, our patient reach continued to decline (from almost 50 million in 2016 to 44 million in 2017), largely due to the increasing availability of other artemisinin-based combination therapies from generic manufacturers, which have also been pre-qualified by the World Health Organization and are therefore eligible for international donor-funded procurement. Our commitment to malaria is long term, and we will continue with our Coartem deliveries.

Novartis Healthy Family programs reached nearly 580,000 patients in India, Kenya and Vietnam in 2017, a reduction from previous years due to the closing of the Keluarga Sehat program in Indonesia. For further information on Healthy Family programs, see pages 22 and 33.

For more details on our progress, see

→ Novartis Access two-year report
→ Novartis Healthy Family 10-year report

Pricing

While there have been tremendous advances in medical science, some people cannot afford the medicines they need. This is not just an issue in the developing world, where lower incomes and purchasing power mean even some of the cheapest medicines cannot be afforded; it is also an issue in the developed world, where many people have limited incomes and/or no access to health insurance.

We aim to provide access to innovative medicines for patients with unmet needs and across all geographic areas, including emerging markets. We actively partner with governments, NGOs and other stakeholders in the public sector to understand the local healthcare landscape and develop access solutions that meet local priorities and patient needs. We complement our efforts to increase affordability with initiatives aimed at improving diagnosis, supporting patients and building capabilities. Novartis has developed a structured and integrated patient access approach to address key barriers to access in emerging markets. This includes taking into account affordability, which is a major challenge for both healthcare systems and patients.

In the 2016 Access to Medicine Index, Novartis was noted for considerable expansion in our provision of equitable pricing strategies. In total, 49% of our products for diseases in scope had pricing strategies that target priority countries for the index. To further embed access in our business strategy, Novartis has approved at Board level the Novartis Access Principles, to be implemented in 2018. A key tenet of these principles is to improve the affordability of our products, taking into account local socio-economic conditions while maintaining the sustainability of our business. A pricing/affordability indicator based upon the principles will therefore be developed and reported in 2018.

Local brand strategies have been developed for emerging markets to address affordability issues, expand access, and help reduce the time lag between the availability of our innovative products in higher-income and lower-income countries. Novartis has launched more than 35 local brands as of November 2017. Initial estimates indicate that compared to traditional commercial models, this approach enables us to reach from three to five times more patients in low- to middle-income countries.

The launch of our new biologic therapy for psoriasis in India, which used a local brand approach supported by other access solutions, is one example of how this strategy has supported access expansion in a self-pay market. According to a local analysis, cost was one of the barriers to access – but lack of awareness and patient support, and the need for in-clinic administration and frequent hospital visits were highlighted as additional challenges. The team developed and implemented a program for drug administration at home, which was more convenient for patients and helped free up caregivers’ time as well as administrative time at the clinics. The program also offered disease counseling for patients. Through these efforts, significantly more patients obtained access to the drug in the first year after launch versus what was achieved with other biologics after several years.

Generic medicines can also expand access by offering affordable treatments with the same safety and efficacy as the originator product after its patent expires. Novartis is the only major healthcare company with leadership positions in both patented and generic pharmaceuticals. Our Sandoz Division is the second-largest producer of generics, with a portfolio of approximately 1,000 products.

Sandoz and its affiliate 1 A Pharma often compete in tenders, where the lowest-priced product with the best delivery conditions usually wins the contract. Sandoz and 1 A Pharma have successfully tendered bids in numerous African countries.

As a pioneer and global leader in biosimilars, Sandoz has contributed significantly to increasing patient access by freeing up funds for healthcare systems through much-needed competition, and by driving increased use of biologics. Sandoz biosimilars have been used in clinical practice for more than 10 years, are available in more than 86 countries, and have more than 340 million patient days of experience. In 2017, we gained approval in the EU for two new biosimilar products, rituximab and etanercept, and we launched them in several European markets.
“A health system is like a chair with four legs. One is infrastructure, one is health workers, one is medicines and medical supply, and the last is health information systems. The base of the chair is how you finance the system. Access to medicine is a critical element of any health system; otherwise, the chair would fall down with the patient who is sitting on it. Pharmaceutical companies must play their part, so that people are able to access the medicines they need at affordable prices.”

Dr. Mohga Kamal-Yanni, senior health and HIV policy advisor, Oxfam GB

**Intellectual property**

The intellectual property (IP) system is essential to our mission of improving and extending people’s lives. In our research-intensive field, the IP system provides a proven, practical means to attract the massive investments needed to conduct and sustainably finance the complex activities—from research and development through to distribution—that lead to life-saving and life-enhancing medicines and cures.

We recognize, however, that in the world’s least developed countries (LDCs), as defined by the United Nations, and in low-income countries (LICs), as defined by the World Bank, disadvantages stemming from the development stage of these countries can create unique challenges that may interfere with the ordinary mechanics and typical benefits of a market-based patent system. For these reasons, like the majority of other healthcare companies that operate in the developing world, Novartis has long had policies of either not filing or not enforcing patents in LDCs. In 2017, the ECN approved changes to expand our policies to extend to LDCs as well as LDCs, and we have broadened our commitment to include both non-filing and non-enforcement of patents (i.e., for any patents that may already exist) in this expanded group of countries. In addition, we have broadened our existing voluntary licensing policy—which involves a commitment to grant non-exclusive licenses to qualified third parties to supply our patented products exclusively to LDCs—to now also include all LICs.

Novartis was one of the founding partners of the Patient Information Initiative for Medicines (Pat-INFORMED), announced in October. This initiative is a partnership between the World Intellectual Property Organization and the pharmaceutical industry that aims to create a global version of the US Orange Book, which lists all patents that protect drugs approved in the US. This will make it easier for national and international drug procurement agencies to access a basic body of patent information from a single source. Pat-INFORMED will initially provide information on granted patents for small-molecule products within the areas of oncology, hepatitis C, cardiovascular disease, HIV, diabetes and respiratory disease, as well as any other products on the World Health Organization’s Essential Medicines List. The database for these therapy areas is targeted to be online by mid-2018. In a second phase, Pat-INFORMED will expand to all therapeutic areas and explore the inclusion of complex therapeutics. In addition to a searchable database, Pat-INFORMED includes a platform for facilitating communication between procurement agencies and patent owners to make it easier for the former to seek more detailed public patent information about a particular medicine.

Novartis is also a founding member of the WIPO-World Economic Forum Inventor Assistance Program (IAP), a first-of-its-kind pro bono program aimed at providing free IP-related legal services to under-resourced inventors in developing countries to help these inventors navigate the patent system. After pilot launches in Colombia, Morocco and the Philippines in 2015 and 2016, Novartis supported and helped launch the program in South Africa and Ecuador in November 2017.

**Healthcare system strengthening**

A medicine is only as good as the system that delivers it. More needs to be done to strengthen healthcare services and build capacity on the ground to help developing countries create fully functional healthcare systems. More healthcare workers are needed who can prevent, diagnose and treat diseases, as even the most effective treatments have limited impact without skilled healthcare personnel. Importantly, healthcare systems also need strong regulatory systems to support pharmacovigilance, good manufacturing and clinical practices, which are vital to helping lower-income countries improve healthcare capabilities and patient outcomes.

Novartis works to expand healthcare capabilities by combining its scientific expertise with on-the-ground experience. Our local country organizations work to define and implement specific strategies tailored to local needs. No one company can solve these issues alone, so we partner with governments, NGOs, private companies (also across industry sectors) and other stakeholders to create sustainable solutions.

The Novartis Foundation is taking on the challenge at a city level through its new initiative, Better Hearts Better Cities, to improve cardiovascular health in low-income urban populations. The program seeks to improve the detection, treatment and control of high blood pressure through a multisector approach in a sustainable way at
scale. Better Hearts Better Cities brings together multi-sector partners – including food suppliers, health authorities, employers and city planners – to contribute expertise and resources for local solutions that can improve cardiovascular health in cities. Information and communication technology, or digital technology, is also an integral part of Better Hearts Better Cities. Intel Corporation is serving as the digital advisor for this initiative.

Better Hearts Better Cities has already launched in Ulaanbaatar in Mongolia and in Dakar in Senegal, and it is planned to launch in São Paulo, Brazil, in 2018. In the pilot district of Dakar (Dakar Ouest), efforts are underway to strengthen hypertension prevention and care, to improve health literacy via education programs, to set up a registry for disease observation, and to collaborate with key employers on workplace programs for NCDs. These interventions are planned to be rolled out across the remaining city districts in 2018 and beyond.

Cancer is also on the rise in sub-Saharan Africa. Approximately 650,000 people in Africa develop cancer annually, leading to about 510,000 cancer deaths that occur each year due to limited treatment options. More than one-third of the cancer deaths in Africa are from cancers that are easily preventable and/or treatable if detected early. While the availability of cancer treatments is important, it is far from sufficient to improve cancer care in developing countries, which suffer from systemic issues such as a lack of basic healthcare infrastructure, equipment, clinics and hospitals, efficient distribution networks, medical staff and trained healthcare providers. Moreover, because the availability of cancer drugs is limited, procurement agencies themselves are unfamiliar with the treatments. There is also a stigma associated with cancer because it is considered fatal, so being tested when symptoms appear can be a difficult step for a patient to take.

In this context, Novartis Access, the American Society for Clinical Pathology (ASCP) and the American Cancer Society (ACS) joined forces in November to improve access to oncology medicines in the region. Through this initiative, partners are being connected to national health priorities, strengthening the entire continuum of care for cancer patients – from training for better diagnosis and care, to improved access to treatment, through to advocacy for national cancer treatment guidelines.

Each partner brings unique expertise in cancer diagnosis and treatment. ASCP will build healthcare capacity for immunohistochemistry analysis in two hospital laboratories in Ethiopia and Tanzania. ACS will support the training of healthcare professionals in Ethiopia, Tanzania and Uganda to ensure quality processes in the transportation of biopsy samples and in the administration of chemotherapy. Novartis will provide funding to support the technical work. This initiative is planned to serve as a pilot for the future rollout of similar activities in other countries.

Novartis Access has also continued to expand capacity-building activities to raise awareness about, screen for and diagnose hypertension and diabetes; train healthcare workers; and work on supply chain integrity and distribution.

To address the challenges of bringing healthcare to people living in India’s rural and remote areas, Novartis launched Arogya Parivar (“healthy family” in Hindi) in 2007. This social business model uses a market-based approach for healthcare provision. The program is organized into cells, currently 239. Each cell covers 35-40 square kilometers and includes 60 to 75 villages and small towns with around 200,000 inhabitants. Today, the program operates across 11 Indian states, covering some 14,000 villages and small towns that are home to more than 32 million people. Arogya Parivar broke even in less than three years and has been sustainable ever since, meeting both its commercial and social targets. It is expected to reach 44 million people through health education meetings and health camps over the next five years.

In addition to India, Healthy Family is now present in Vietnam and Kenya. In 2017, nearly 580,000 people attended health camps.

Novartis shares the view of the global health community that there is a pressing need to formalize the role of community health workers (CHWs) as an essential component of building stronger healthcare systems in developing countries. Last Mile Health, which success-

<table>
<thead>
<tr>
<th>Healthcare system strengthening and patient education and prevention performance indicators</th>
<th>People reached (thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017</td>
</tr>
<tr>
<td>Healthy Family (in India, Kenya and Vietnam)</td>
<td>7 689.9</td>
</tr>
<tr>
<td>Novartis Foundation</td>
<td>7 080.6¹</td>
</tr>
<tr>
<td>Novartis research capacity-building programs</td>
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¹ Via training and service delivery and through health awareness activities
² Numbers have been restated for Healthy Family given the Keluarga Sehat program in Indonesia ended in January 2017
³ Programs at scale report the catchment of a population in the area where a program has been implemented. Includes expanded nationwide catchment area of the population in 25 districts of Ghana
fully established a CHW program in Liberia in partnership with the government of Liberia, is developing the world’s first digital education platform for CHWs and the leaders who support them, called the Community Health Academy. To help launch this academy, Novartis will provide a USD 1 million donation over three years, in addition to input on the curriculum, content and strategic direction for the program.

In addition, the Novartis CEO is co-leading the Health Delivery Systems initiative of the Bill & Melinda Gates Foundation CEO Roundtable. This group aims to map company programs to build health capabilities, identify opportunities for synergies and collaboration, and propose potential joint initiatives that could amplify these individual efforts.

For more details on our progress, see → Novartis Healthy Family 10-year report

**Patient assistance programs**

Even in countries that have sufficient incomes and insurance schemes to help pay for healthcare, there are still individuals who are unable to afford care for various reasons. They include people in places such as the US, where even having prescription drug coverage does not guarantee that someone can afford the medicine they need, when they need it. We have therefore set up patient assistance programs around the world for patients who cannot afford their medicines due to a lack of adequate insurance coverage. We use a standard model for all our global and locally run patient-oriented programs, with a documented framework in place to ensure quality and compliance. In 2017, our patient assistance programs worldwide helped more than 138,000 people access medicines they could not afford due to financial hardship, lack of insurance, or inadequate reimbursement.

In the US, for patients with commercial insurance, we offer copay assistance programs so eligible patients pay no more than USD 30 for a 30-day prescription (i.e., USD 1 per day) through retail or mail order for the vast majority of our branded and biosimilar products. This includes our cancer portfolio. As of January 2018, all our branded products without generic alternatives and our biosimilar products are available under these programs, subject to any limits imposed by a patient’s individual health plan and where allowed by law.

In addition, the Novartis Patient Assistance Foundation Inc. provides medicines at no cost to eligible US patients who are experiencing financial hardship and have limited or no prescription drug coverage. In 2017, we increased the income eligibility limits for all branded products available via the program. For example, individual patients earning less than USD 75,000 per year and families of four with an income below USD 150,000 per year may be eligible. We plan to continue to adjust income eligibility limits in accordance with changes to the US federal poverty level and other external factors. In 2017, the Novartis Patient Assistance Foundation Inc. provided nearly USD 1.5 billion in free medicines to more than 55,000 patients in the US.

We also provide programs for patients in lower-income countries. One of our key programs, Novartis Oncology Access (NOA), is designed to address access to our medicines for cancer and blood disorders in countries with very limited healthcare reimbursement systems or challenging healthcare environments. The NOA programs include the Novartis medicines Glivec, Tasigna and Exjade. In 2017, these programs reached almost 83,000 patients worldwide.

The Glivec International Patient Assistance Program (GIPAP) was a direct-to-patient access program that helped frame NOA programs. Since launching in 2002, GIPAP has assisted approximately 75,000 patients in nearly 80 countries. It was introduced after Novartis recognized the importance of ensuring patients in lower-income countries have access to breakthrough cancer therapy. Given the changes in the healthcare environment from when the program was launched, Novartis and The Max Foundation recognized the need to evolve the GIPAP strategy to help ensure sustainable access for patients. In 2017, we announced that GIPAP will be transitioned to CMLPath to Care™, a new, independent, patient-centered program that is a collaboration between Novartis and The Max Foundation. The Max Foundation will assume responsibility from Novartis for delivering treatment to patients, including supply chain management. Novartis will provide funding and drug donation support. China Charity Federation continues to be our partner for these patient assistance programs in China.

### Patient assistance programs performance indicators

<table>
<thead>
<tr>
<th>Patients reached (thousands)</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novartis Patient Assistance Foundation Inc. (US)</td>
<td>55.5</td>
<td>51.2</td>
<td>42.6</td>
</tr>
<tr>
<td>Oncology/hematology LMIC patient assistance</td>
<td>82.9</td>
<td>83.3</td>
<td>80.6</td>
</tr>
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</table>
How we perform

In our industry, main indirect impacts are linked with increasing access to healthcare. Novartis products reached more than 925 million patients in 2017, and of these patients, approximately 46 million were reached through access-to-healthcare programs. Diseases cause governments to spend more on healthcare and also have wider economic and social costs. Our medicines and medical devices help reduce these costs, but quantifying these indirect savings is difficult. However, innovative medicines and treatments can reduce healthcare costs because fewer surgical procedures are required, hospital stays are shorter, and the associated costs of nursing care are also reduced.

We realized years ago that the traditional model of providing access to medicines in the developing world – generally via donations and philanthropy – was not a sustainable one. We have therefore focused our efforts on innovative business models, strengthening healthcare systems and equitable pricing, while still maintaining our long-term programs to deliver essential medicines for infectious diseases such as malaria and leprosy.

We worked throughout 2017 to expand and grow all of our programs. Overall, the figures show a mixed result. Novartis Access added three new countries and reached more than 386,000 patients. Sandoz reached 525 million patients with generic medicines.

Being a pioneer comes with challenges, as you are threatening the established mindset and models. While we can be proud that Novartis Access has delivered more than 800,000 monthly treatments in four countries since launch, and that we have submitted 502 products in 24 countries in just two years, the rollout of the program has not been as swift as anticipated. But we keep going, learning and adapting as needed, because we believe this will help make all of our programs stronger moving forward.

Beyond the sheer numbers, however, it is clear that we are making real progress. This has been recognized, for example, by the Access to Medicines Index, which in 2016 ranked us third. More importantly, we topped the industry in access-to-medicine management and capacity building, and our integrated access strategy addressing all income segments stood out as a best practice.

This progress can also be seen in our programs: Novartis Access has grown; Healthy Family and the Novartis Malaria Initiative continue to provide critical services; we have launched new and exciting programs such as Better Hearts Better Cities that take a holistic view of improving cardiovascular health; and our equitable pricing efforts have taken root. We plan to continue and grow these efforts in 2018. We have taken concrete steps to embed access to healthcare in the very core of our day-to-day business, with the implementation of our Access Principles throughout the organization.

Photo After drawing a crowd with a performance by street musicians, health educator Chankey Kumar addresses people in the northern Indian village of Mulehra on disease prevention and healthy lifestyles. He works for Arogya Parivar, a program launched by Novartis in 2007 to improve access to healthcare for the country's rural poor. This is done by educating patients and increasing the availability of doctors and medicines in around 14,000 rural communities.