



Connecting with patients

Pioneering initiatives to enhance access to healthcare

During 2010, vaccines and medicines from Novartis were used to protect and treat more than 900 million people around the world.

Our access-to-medicine programs reached 85.5 million patients.

One Novartis patient out of 11 received treatment through an access program.





Innovation: the heart of our access strategy

Multiple barriers to access affect global health: limited availability of healthcare personnel, treatment and diagnostic options, low quality of care, limited accessibility of health facilities, and too little focus on prevention, in addition to poverty and lack of health education.

Solutions are complex, and must include better prevention, diagnosis and treatment, appropriate facilities and personnel, adequate health policies and systems as well as work to alleviate poverty.

As a healthcare company, Novartis addresses the access issue by discovering and developing new products to prevent and cure diseases, to ease suffering and to improve quality of life.

No single company – no matter how committed to patients – can bridge the access gap. Improving access to healthcare is a goal Novartis shares with governments,

international agencies such as the World Health Organization (WHO), foundations and nongovernmental organizations (NGOs).

Barriers to access can be overcome only with effective and coordinated action by all parties involved, and working together, we can achieve our common goal.

At Novartis, enhancing access begins with medical research, continues with new business models and is supported by action to strengthen healthcare in both developing and advanced economies.

Innovation across diverse areas of healthcare is the foundation of our access strategy. Even as we seek new ways to prevent, diagnose and treat diseases, we also forge innovative ways to deliver healthcare solutions to patients who need them.

For further information:

www.novartis.com/corporate-responsibility

In 2010, Novartis access-to-medicine programs were valued at USD 1.5 billion. This represents 3% of Novartis Group net sales.

Investing in innovative research for neglected diseases

Total funding invested into R&D of new products for neglected diseases was over USD 3 billion in 2009.*

More than 82% of private sector funding into neglected disease R&D came from multinational pharmaceutical companies in 2009.*

* Source: G-FINDER 2010, The George Institute for International Health

Novartis contributes to improving healthcare by discovering and developing innovative vaccines and medicines for unmet needs.

The pharmaceutical industry invests more than USD 50 billion each year in research and development (R&D) – the single most important source of investment in health research. Investment in R&D by Novartis ranks among the highest in the industry. We spent more than USD 8 billion on R&D in 2010, which represents 16% of our net sales.

R&D is inevitably lengthy and expensive – typically it takes a decade, investments exceeding USD 1 billion and the exploration of almost 10,000 compounds to bring one new medicine to market. Novel funding mechanisms and collaborations are required to finance R&D, especially for the treatment of diseases that are unlikely to produce commercial returns.

A new approach to drug development

The Novartis R&D strategy actively targets rare diseases where the market may appear small but where there is a real unmet medical need and clear scientific understanding of the disease's underlying cause; our research priorities are not determined by potential market size. When we identify a successful compound, we aim to develop it for both the rare disease and broader indications, further improving healthcare through innovative treatments.

An example is Muckle-Wells syndrome, a rare disease that can have potentially fatal complications. This condition is part of a rare group of autoinflammatory diseases called cryopyrin-associated periodic syndrome (CAPS) that affects about 6,000 people worldwide, including nearly 2,500 in the European Union and a few hundred in the United States.

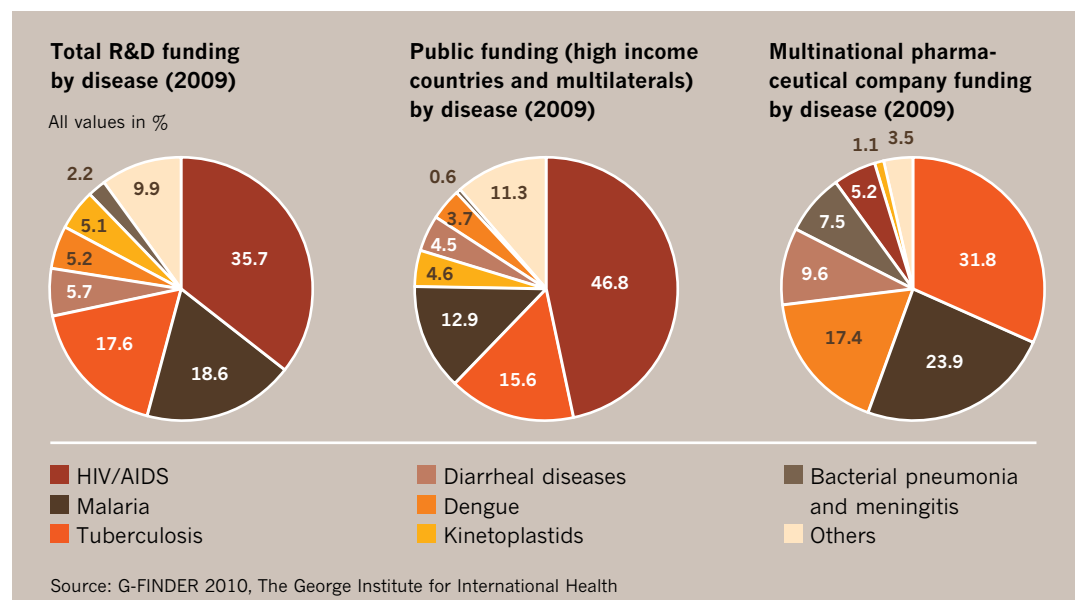
Despite such a small market, Novartis developed *Ilaris* (canakinumab), which is now approved in more than 45 countries, including the US, EU and Switzerland.

In pursuit of this therapy, Novartis scientists discovered that Muckle-Wells syndrome may share a common molecular pathway associated with other more common conditions.

Institutes dedicated to researching diseases of the developing world

Novartis has committed to researching vaccines and medicines for diseases of the developing world through two specialized institutes.

The Novartis Vaccines Institute for Global Health (NVGH) is dedicated to discovering vaccines for diseases that are devastating to developing countries and do not receive adequate attention. The NVGH is working on diarrheal diseases, developing a vaccine for salmonella typhi. It collaborates with





organizations such as the Global Alliance for Vaccines and Immunization, United Nations agencies, the Wellcome Trust and the Bill and Melinda Gates Foundation.

The Novartis Institute for Tropical Diseases (NITD) is an alliance between Novartis and the Singapore Economic Development Board. It has more than 100 international scientists based in Singapore with 30 collaborators around the globe, dedicated to researching novel treatments for major tropical diseases such as dengue fever, malaria and tuberculosis. The institute also provides teaching and training for graduate students and post-doctoral fellows, building capacity to address medical challenges in the developing world.

The NITD plans to test at least two potential treatments in patient trials by 2012, including a promising new medicine candidate for drug-resistant malaria. Recognized for its great promise as a next generation treatment for malaria, the new compound received the Medicines for Malaria Venture (MMV) "Project of the Year Award" in 2009.

Vaccines and medicines discovered by the two institutes will be made available at not-for-profit prices to poor patients where they are most needed.

Incentives needed for innovative research

Protecting intellectual property rights is essential to encourage research and development, leading to new and better medicines. Only with effective patent laws can we continue to bring therapeutic improvements to patients, ultimately resulting in better patient care. Patents are sometimes viewed as a barrier to access – however, more than 95% of the drugs on the WHO's Model List of Essential Drugs are not covered by patents but more than one-third of the world's population lacks access to these medicines.

Patient assistance programs for both patented and unpatented medicines can reduce barriers to access, as demonstrated by our pioneering initiatives for malaria and leukemia. Nevertheless, research breakthroughs and patient assistance programs can make little impact if there is no solid health system to reach patients.

HIV/AIDS, malaria and TB received nearly 72% of the total R&D funding for neglected diseases in 2009.*

Diarrheal diseases, dengue and kinetoplastids each received more than 5% of global funding for the first time in 2009.*

TB, malaria and dengue received 73% of the investment by multinational pharmaceutical companies into R&D for neglected diseases in 2009.*

* Source: G-FINDER 2010, The George Institute for International Health

Using novel research across disease mechanisms

Novartis is applying expertise from research targeting cystic fibrosis (CF) to tackle secretory diarrhea – a disease that kills more than 1.6 million children a year in developing countries.

CF and secretory diarrhea, two seemingly unrelated diseases, actually share a common underlying cause. Scientists at the Novartis Institutes for BioMedical Research (NIBR) are collaborating with The Institute for OneWorld Health, a US-based not-for-profit pharmaceutical company, on how to apply this knowledge to help patients in the developing world. NIBR is responsible for discovering potential treatments, while OneWorld Health is responsible for preclinical and clinical development.



Enhancing access to medicine through affordability

In 2010, 37,000 patients in about 80 countries received *Glivec* or *Tasigna* through our global patient assistance programs and through the support of more than 1,000 physicians.

Use of generics has resulted in more than USD 700 billion in savings to patients and payors in the US during the last decade.

Price is one of many factors that prevent poor people from receiving the healthcare they need, but innovative pricing can help increase access.

Differential pricing can help open up access

Differential pricing helps to make medicines accessible to more people. A treatment that is sold at full price in developed markets can be provided at a subsidized price in other countries or to poorer patients, or may be donated in the poorest countries.

Novartis practices a differential pricing approach for its antimalarial medicine *Coartem/Riamet* (artemether 20 mg/ lumefantrine 120 mg) at not-for-profit prices for public sector use in developing countries, and at market prices in developed markets, in compliance with the applicable competition law. Since 2001, the price of the treatment for public sector buyers has been reduced by over 50%, greatly expanding access to this life-saving medicine.

Expanding access in advanced economies

Developing countries are the main focus for improving access but it is also a challenge in advanced economies, so we have introduced patient assistance programs in developed countries. In the US, Novartis has set up assistance programs and reimbursement hotlines for patients experiencing financial

hardship who do not have prescription drug coverage.

In 2010, our patient assistance programs in the US provided products valued at USD 319 million to more than 100,000 patients in need. Novartis also supports the Partnership for Prescription Assistance, a single point of access to more than 475 public and private patient assistance programs, including nearly 200 programs offered by pharmaceutical companies.

Increasing access to affordable generics

Generic medicines help increase access to quality healthcare for patients worldwide. Containing the same active substances, they are therapeutically equivalent to and fully substitutable for the reference product. Novartis is the only healthcare company with leadership positions in both patented and generic pharmaceuticals. Our Sandoz division is a global leader in generics, with a portfolio available to more than 90% of the world's population.

Expertise in biotechnology means we can also improve access to affordable biopharmaceuticals. Sandoz is the pioneer and global no. 1 in the rapidly growing market for biosimilars, providing greater access to state-of-the-art treatments worldwide.

Increasing access through new pricing models

Gleevec/Glivec (imatinib mesylate) is a Novartis drug for CML (chronic myeloid leukemia) and GIST (gastrointestinal stromal tumor), two rare forms of cancer. For this breakthrough life-saving medicine, we established the first global direct-to-patient access program in collaboration with the Max Foundation, the Chinese Charity Foundation, Axios International and several local groups. The program is based on three customizable models: full product donation; shared contribution, where local governments, charities or other payors share the cost of the medication with Novartis; and co-pay, where Novartis and the patient share the cost of the medication on a sliding scale, depending upon the patient's ability to pay.

Novartis has been extending the program in low-income countries to include *Tasigna* (nilotinib), a second-generation medicine approved for use in CML patients resistant or intolerant to *Gleevec/Glivec*.



Strengthening public healthcare delivery through collaboration

Cooperation is essential to achieve wider access to vaccines, diagnostics and medicines. Governments have a primary responsibility for citizens' healthcare. Healthcare companies' main contribution is to develop and market efficacious, safe and high-quality medicines. Other groups, such as the WHO, NGOs and charities also contribute crucial expertise and resources.

In a far-reaching alliance centered on prevention, Novartis collaborates with the WHO, UNICEF, the Pan-American Health Organization (PAHO) and others to deliver vaccines against diseases such as diphtheria, tetanus and polio. Novartis supplies approximately 320 million doses of polio vaccine to UNICEF and PAHO annually for use in developing countries.

Since 2000, Novartis has also worked with the WHO to provide free treatment for all leprosy patients worldwide. Approximately 5 million people with leprosy have been treated with efficacious multi-drug therapy.

Working together to fight malaria

Alliances and collaborations are at the heart of the Novartis Malaria Initiative focused on access, capacity-building, treatment and R&D. Working with partners in China, Novartis pioneered a new class of antimalarial medicines known as artemisinin-based combination therapies (ACTs), which has become the standard of care for millions of people around the world. Further, ahead of the call from the WHO and UNICEF for "child-sized"

medicines, Novartis, in collaboration with Medicines for Malaria Venture, developed a sweet-tasting pediatric ACT launched in 2009. Malaria is a leading cause of death for children in Africa, and *Coartem Dispersible* is an attractive alternative for infants and children who find it difficult to swallow bitter, crushed pills, which may result in a sub-therapeutic dose intake.

Since 2001, in collaboration with the WHO, and many other partners such as UNICEF, the US President's Malaria Initiative, United Nations Development Program, and Médecins Sans Frontières, Novartis has provided more than 400 million malaria treatments without profit for public-sector use in Africa, helping to save an estimated 1 million lives.

Improving health for poor people

The UN Declaration of Human Rights defines the right to health as "the highest attainable standard of health." The Novartis Foundation for Sustainable Development (NFSD) has worked to improve the standard of health in developing countries for more than 30 years. The NFSD serves as a think tank and initiates programs with governments, NGOs and others to improve access to health services, strengthen human resources in health and empower vulnerable groups. Current projects include an initiative to support AIDS orphans in 13 African countries. The project was founded jointly with the official development aid agencies of Switzerland and Sweden, and involves 158 local NGOs. To date, the project has reached more than 5 million children.

The Novartis Malaria Initiative is one of the healthcare industry's largest access-to-medicine programs, and *Coartem* is the most used Novartis treatment in terms of number of patients reached annually.

Since 2001, Novartis has supplied more than 400 million *Coartem* treatments to malaria-endemic countries, helping to save an estimated 1 million lives.

Novartis has provided free treatment for leprosy patients worldwide since 2000 – leading to the cure of approximately 5 million patients and near-elimination of the disease.

Improving prevention through public-private partnerships

In collaboration with the biotech company Crucell and the UN, Novartis developed *Quinvaxem*, a fully liquid pentavalent vaccine that protects children against five potentially deadly diseases: Haemophilus influenzae type b, diphtheria, tetanus, pertussis (whooping cough) and hepatitis B. Through its WHO prequalification, *Quinvaxem* is also available to global bodies such as UNICEF and PAHO. More than 200 million doses have been distributed in more than 170 countries since its launch in 2006.



Improving patient education and compliance through new business models

After four years, the Novartis Arogya Parivar program is operating in 10 states across India and offering improved access to healthcare for 42 million people.

We are working to extend the reach of Arogya Parivar to 100 million people in India and have initiated similar programs in Vietnam, Indonesia and Kenya.

At Novartis, we are constantly innovating – in both our medical research and our approach to marketing and product delivery. We learn from other industries, including fast-moving consumer goods, finding new ways to educate patients and encourage treatment compliance – an essential element to ensure treatment success.

Healthcare companies play a positive role in patient education in coordination with physicians and patient groups. By supporting patients, their families and other caregivers through education and outreach, we help patients achieve the best-possible outcomes.

Outcomes through patient education

Multiple sclerosis (MS) is estimated to affect up to 2.5 million patients worldwide and is a leading cause of neurological disability in young adults. Extracare™, a Novartis patient support program, offers MS patients and caregivers instructions on proper administration of medication, as well as access to nurses, a call center and online resources. Extracare also offers practical education and training on approaching everyday life with MS and enrollment in the program improves patient compliance and retention.

Looking Forward, a support program for patients with the “wet” form of age-related macular degeneration, provides advice and support services to make patients’ lives as easy and stress-free as possible. The program helps improve vision by assisting patients with self monitoring – a critical factor to successful treatment.

In the US, Novartis collaborates with health insurers to encourage compliance. Discounts provided by Novartis can be passed on by the insurer if a patient completes a full treatment course. This program has helped to reduce drop-off rates significantly. We also work with insurers in Brazil to extend coverage to non-hospital treatment, making it easier for people to gain access to medicines when they are not hospitalized.

In Mexico and elsewhere in Latin America, Novartis works with doctors to improve patient health by increasing compliance. These programs aim to educate patients and raise disease awareness, review therapeutic options and highlight the importance of keeping to a prescribed treatment regimen.

Arogya Parivar: Meeting needs at the bottom of the pyramid

“Arogya Parivar” means “healthy family” in Hindi, and this Novartis initiative applies innovative business thinking to address the health needs of India’s enormous rural population – a market segment that has become known as the bottom of the pyramid.

The approach uses a marketing mix based on the “4 As” – Awareness, Acceptability, Affordability and Availability – adapted to low-income markets through:

- Products tailored to the villagers, simple to use, available in small packs hence more affordable, with packaging and educational materials in local languages
- Systems to ensure supply chain continuity and improve the availability of medicines – critical in an environment where stock-outs are commonplace
- Community health education to address low levels of disease awareness, which is particularly important to creating a viable business model



Putting patients first and bringing healthcare closer to home

Novartis supports governments and drug development actors in better aligning healthcare services with poor patients' needs. We work to build local capacity to respond to health needs in the long term through accurate diagnosis and effective treatment.

For instance, as an additional contribution in the fight against malaria, Novartis brings managers of national malaria control programs together to share best practices in a variety of ways including community awareness building, healthcare worker training, stock management and health impact measurement.

A patient-centered approach

The Novartis Foundation for Sustainable Development uses drug donation programs and new approaches to bring treatments to patients.

In Tanzania, tuberculosis (TB) is still one of the most common causes of death, in spite of the availability of free treatment. To improve access, adherence and cure rates, the NFSD introduced a pilot initiative allowing patients to choose to take treatment and be monitored at home. Traditional TB treatment

requires daily, often lengthy and expensive trips to a health facility to receive medicines, putting an additional burden on overstrained patients, families and health workers.

Results of the NFSD pilot show improved treatment success rates and very high patient adherence during in-home treatment. Based on these positive results, the approach has been scaled up to the entire country.

The NFSD has also pioneered the use of social marketing to reduce stigmas associated with leprosy and tuberculosis and encourage people to come forward for treatment. These campaigns have created awareness of causes, symptoms and appropriate treatment for each disease.

The foundation supports access initiatives in rural Tanzania and Mali by strengthening the quality of care provided by the public health system through the introduction of rapid diagnostic tests for malaria, as well as regular assessments and training. In parallel, it works to empower patients through health insurance schemes, micro-credits for women's groups and information campaigns in schools and villages.

Through the WHO, Novartis has committed to provide 500,000 fixed-dose-combination therapies to treat all adult patients in Tanzania over an eight-year period.

Managing malaria drug supplies through new information technology

The SMS for Life pilot is a public-private partnership initiated by Novartis and involving IBM, Vodafone and the Ministry of Health in Tanzania under the umbrella of the Roll Back Malaria Partnership. The program uses mobile phones, SMS messages and electronic mapping technology to bring visibility on stock levels of artemisinin-based combination therapies (ACTs) and quinine injectables at the health facility level on a weekly basis. This visibility helps eliminate stock-outs to ensure anti-malarials are available to patients, even in the most remote areas.

The 21-week pilot in three rural districts of Tanzania covering 129 health facilities led to a dramatic reduction in stock-outs: at the start of the pilot, 26% of all health facilities had no ACTs of any dose type, but by the end of the pilot, this stock-out rate had been reduced to just 0.8%. SMS for Life is now being rolled out across Tanzania and expanded to other African countries including Ghana and Kenya, where multi-district pilots have been set up.

Novartis access-to-medicine projects 2010¹

Project	Objective	Target region	Value (USD mil.)	Patients
Malaria/WHO²	Provide <i>Coartem</i> at cost for public sector use	Africa, Asia, Latin America	218	81 309 000
Leprosy/WHO^{3,4}	Eliminate leprosy by providing free medications to all patients worldwide with WHO	Global	5	268 000
Tuberculosis^{3,4}	Donate fixed-dose combinations	Tanzania	2	87 000
Fascioliasis⁵	Provide <i>Egaten</i> free of charge to treat patients infected with fascioliasis	Bolivia, Egypt, Madagascar, Yemen	0.2	222 000
Novartis Foundation for Sustainable Development (NFSD)^{6,7}	Improve health and quality of life of poor people in developing countries through think tank, policy and project work	Developing countries	9	3 442 000
Novartis Institute for Tropical Diseases (NITD)⁶	Discover novel treatments and prevention methods for major tropical diseases; NITD discoveries to be available in poor endemic countries without profit	Developing countries	14	–
Novartis Vaccines Institute for Global Health (NVGH)⁶	Develop effective and affordable vaccines for neglected infectious diseases of developing countries	Developing countries	7	–
US patient assistance program (PAP)³ (excl. <i>Gleevec</i>)	Assist patients experiencing financial hardship, without third-party insurance coverage for their medicines	United States	188	100 000
<i>Gleevec</i> US PAP^{3,8}	Within capability of Novartis, continue to ensure access for patients in the US who cannot afford the drug	United States	131	5 000
<i>Glivec</i> Global PAP/ <i>Tasigna</i> Global PAP^{3,8,9}	Within capability of Novartis, continue to ensure access for patients outside the US who cannot afford the drug	Global (excluding US)	923	37 000
Together Rx Access	Participate in discount program for the uninsured	United States	0.2	3 000
Emergency relief & other product donations	Support humanitarian organizations	Global	47	–
Total			1 544	85.5 million

¹Excluding Alcon, Inc.

²During 2010, 81.3 million *Coartem* treatments reached patients based on a preliminary analysis of local distribution. Of these, 42.8 million treatments came from shipments completed in 2009, and 38.5 million from shipments in 2010. A total of 82.4 million treatments were shipped in 2010. Value was calculated using the number of treatments shipped in 2010 and the ex-factory price of *Coartem* to private-sector purchasers in malaria-endemic developing countries, minus payments to Novartis to cover costs under terms of the public-private partnership with the WHO. These payments were received through the WHO, UNICEF and other procurement agencies, acting on behalf of governments and other public sector institutions in developing countries eligible to receive *Coartem* at the not-for-profit price.

³Ex-factory price to private market

⁴Value and patients are based on WHO estimates

⁵Manufacturing costs

⁶Novartis operating costs

⁷Patients number indicates beneficiaries of projects supported by NFSD and partners; beneficiaries include patients, healthcare professionals and members of health insurance schemes. Patients number for 2010 is not comparable to previous years due to changes in methodology, reporting cycles and beneficiary groups included.

⁸US donations of *Tasigna* are included in US patient assistance program

⁹Value and patients include donations under shared contribution and co-pay models



About Novartis

We want to discover, develop and successfully market innovative products to prevent and cure diseases, to ease suffering and to enhance the quality of life.

Focused solely on healthcare, Novartis offers a diversified portfolio to best meet the evolving needs of patients and societies.

- Pharmaceuticals: innovative patent-protected medicines
- Alcon: global leader in eye care with surgical, ophthalmology and consumer products
- Sandoz: affordable, high-quality generic medicines and biosimilars
- Consumer Health: self-medication products and treatments for animals
- Vaccines and Diagnostics: vaccines and diagnostic tools to protect against life-threatening diseases



In 2010, the Group's continuing operations achieved net sales of USD 50.6 billion, while approximately USD 8.1 billion was invested in R&D activities throughout the Group.

Headquartered in Basel, Switzerland, Novartis Group companies employ approximately 119,000 associates and operate in more than 140 countries around the world.




 www.novartis.com

For further information

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-  www.patientassistancenow.com
-  www.pparx.org

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-  www.novartis.com/corporate-responsibility/access-to-healthcare/index.shtml
-  www.malaria.novartis.com
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