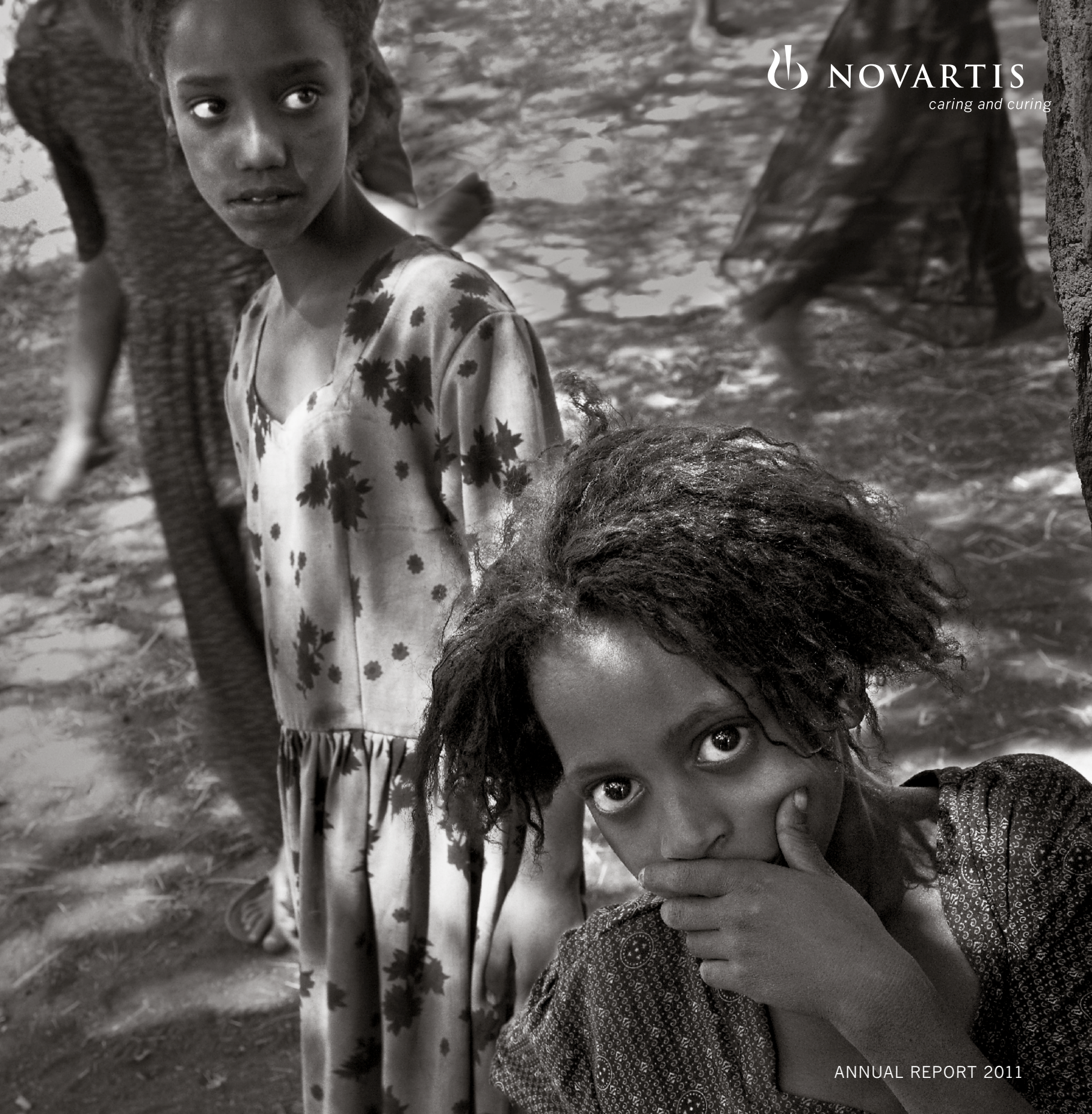


NOVARTIS

caring and curing

ANNUAL REPORT 2011

OUR MISSION

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.

We also want to provide a shareholder return that reflects outstanding performance and to adequately reward those who invest ideas and work in our company.

CONTENTS

HEALTHCARE PERSPECTIVES
by photojournalist Eugene Richards

GROUP REVIEW

Novartis provides healthcare solutions that address the evolving needs of patients and societies worldwide. Our portfolio focuses on broad areas of healthcare: pharmaceuticals, eye care, generics, vaccines, consumer-based OTC and animal health.

FINANCIAL HIGHLIGHTS

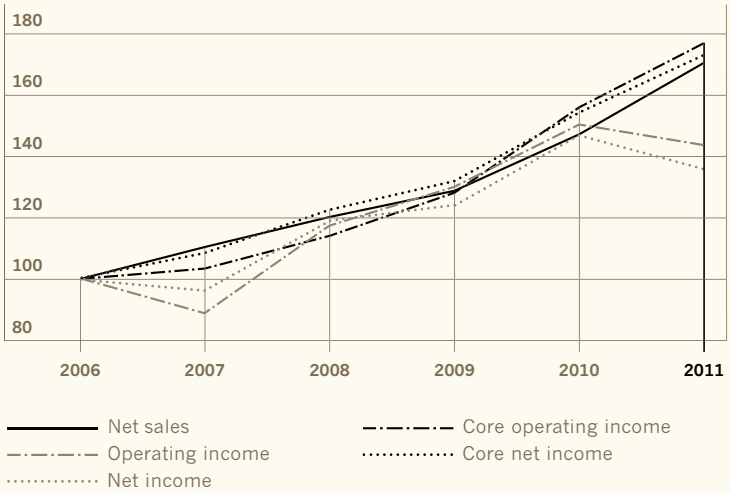
KEY FIGURES

(in USD millions, unless indicated otherwise)

	2011	2010
Net sales	**58 566**	50 624
Operating income	**10 998**	11 526
Return on net sales (%)	**18.8**	22.8
Net income	**9 245**	9 969
Basic earnings per share [1] (USD)	**3.83**	4.28
Core [2]		
Operating income	**15 909**	14 006
Core return on net sales (%)	**27.2**	27.7
Net income	**13 490**	12 029
Basic earnings per share [1] (USD)	**5.57**	5.15
Research & Development	**9 239**	8 080
As a % of net sales	**15.8**	16.0
Number of associates (FTE) [3]	**123 686**	119 418
Return on average equity (%)	**13.6**	15.7
Group free cash flow	**12 503**	12 346

NET SALES, OPERATING INCOME, NET INCOME, CORE OPERATING INCOME AND CORE NET INCOME [4]

(Index: 2006 = 100%)



SHARE INFORMATION

	2011	2010
Share price at year-end (CHF)	**53.70**	54.95
ADS price at year-end (USD)	**57.17**	58.95
Dividend [5] (CHF)	**2.25**	2.20
Payout ratio [6]	**63**	55

2011 NET SALES BY REGION

(% and in USD millions)

United States	33	19 225
Europe	37	21 507
Asia/Africa/Australasia	21	12 354
Canada and Latin America	9	5 480
Total		**58 566**

[1] 2011 average number of shares outstanding: 2 382.5 million (2010: 2 285.7 million)
[2] Core results for operating income, net income, earnings per share (EPS) and R&D eliminate the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.
[3] Full-time equivalent positions at year end
[4] To ease comparability, all figures for 2006 and 2007 exclude the Consumer Health Nutrition operations divested in 2007
[5] Dividend payment for 2011: proposal to 2012 Annual General Meeting
[6] Payout ratio is calculated based on net income attributable to shareholders of Novartis AG. 2011 based on estimated number of shares outstanding on dividend payment date.

NEWS IN 2011

PERFORMANCE	Net sales rise 16% (+12% in constant currencies) to USD 58.6 billion. Operating income down 5% (+1% cc) to USD 11.0 billion, following a net exceptional charge of USD 1.9 billion. Core operating income increases 14% (+16% cc) to USD 15.9 billion. Net income of USD 9.2 billion declines 7% (-2% cc) in line with operating income. Core net income up 12% (+15% cc) to USD 13.5 billion. Recently launched products fuel growth across the broad healthcare portfolio, with products launched since 2007[1] accounting for 25% of Group sales, up from 19% in 2010.
PRODUCTS	Products launched since 2007[1] grow 38% to USD 14.4 billion. Continuing to rejuvenate the portfolio, Pharmaceuticals sees 15 major regulatory approvals in 2011 in the US, EU and Japan. Approvals include new indications for everolimus (*Afinitor/Votubia*) in the EU and US, our breakthrough multiple sclerosis therapy *Gilenya* in Europe and Japan, two new indications for *Lucentis* in the EU, and *Arcapta Neohaler*, for treatment of chronic obstructive pulmonary disease, in the US. In the Alcon Division, *Dailies Total 1*, a daily disposable contact lens that uses silicone hydrogel technology, receives approval in the EU, and *WaveLight* EX500 Excimer Laser is approved in the US.
PIPELINE	One of the industry's leading pharmaceuticals pipelines with more than 130 projects in development. Milestones in development include late-stage studies showing *Afinitor*, in combination with exemestane, significantly lengthens amount of time women with advanced breast cancer live without disease progression. In Vaccines, two pivotal studies of candidate *Bexsero* show promise for protecting infants against meningococcal sero-group B. Sandoz starts recruitment for a Phase II trial in rheumatoid arthritis patients for biosimilar rituximab (generic Rituxan®/MabThera®).
RESEARCH	Significant investment, focusing on areas of greatest patient need and scientific promise at Novartis Institutes for BioMedical Research, aims to discover novel therapies. Biologics account for an increasing proportion of the exploratory pipeline.
PORTFOLIO	The Group establishes Alcon, the world leader in eye care, as the newest and second-largest division in our diversified healthcare portfolio after securing 100% ownership of Alcon, Inc., on April 8, 2011. Pharmaceuticals acquires oncology laboratory Genoptix, bolstering its Molecular Diagnostics unit, and Vaccines and Diagnostics completes its acquisition of an 85% stake in Zhejiang Tianyuan, one of China's largest privately held vaccine companies.
CORPORATE CITIZENSHIP	Engaging with society to improve healthcare is integral to how Novartis operates. Access-to-medicine programs for those in need reach more than 89 million patients in 2011 and, together with our R&D institutes for diseases in developing countries, are valued at USD 1.7 billion, or 3% of net sales.
DIVIDEND	15th consecutive dividend increase with 2% raise is proposed for 2011 to CHF 2.25 per share (2010: CHF 2.20 per share), a dividend yield of 4.2%.

[1] Excluding A (H1N1) vaccines; including Alcon on a pro forma basis for 2010

Daniel Vasella, M.D.

DEAR SHAREHOLDER

What started with a banking crisis in 2008 grew into a debt crisis for a number of industrialized nations last year. So far there has been a distinct lack of credible proposals for a short-term solution to tackling the budget deficits and reducing the debt, let alone any long-term solution. It now appears unlikely that all the institutions of social welfare that have been built up over the past decades can be maintained in the long term. Expansion of the money supply may paper over problems in the short term, but there can be no doubt that the consequences of debt and money supply policies will catch up with us one day.

Despite the uncertainties that are shaping the current mood, Novartis again succeeded in posting record sales of USD 58.6 billion and a net income of USD 9.2 billion in 2011, as well as gained market share in most divisions.

The strategy of focusing on the healthcare sector, which we have pursued over the last 15 years, has proven successful. Our activities include preventive healthcare, diagnostics and above all drug therapy. This opens up multiple opportunities for expansion both geographically and also in terms of new products, and it allows knowledge and experience to be successfully leveraged over several business areas. Our focused diversification strategy also reduces risks notably by diversifying the payor base.

Innovation, quality and productivity are a prerequisite for all divisions to remain competitive. Innovative strength is especially crucial for Pharmaceuticals. We therefore invested over 20% of Pharmaceuticals sales in R&D last year, consistent with previous years. Our robust pipeline includes products for the treatment of certain cancers, respiratory diseases, metabolic disorders, infections, as well as autoimmune and ophthalmic diseases.

Novartis has successfully established itself in new therapeutic areas and expanded its product portfolio of highly specialized medicines. New discovery approaches could also enable us to tackle previously untreatable diseases of genetic origin.

The launch of *Gilenya*, the first oral therapy for multiple sclerosis is a success. *Afinitor/Votubia* has proven to be a new and valuable cancer therapy. In addition to previously approved indications, the results of clinical studies confirm that it also has considerable potential in the treatment of estrogen receptor-positive, metastatic breast cancer in combination with the aromatase inhibitor exemestane. *Tasigna* is an even more effective treatment for chronic myeloid leukemia than *Glivec*, which already set a very high standard in this treatment. Just before the end of the year, we received marketing authorization for *Lucentis* in China. In the key countries, *Lucentis* is approved not only for wet macular degeneration, but also for the treatment of diabetic macular edema and retinal vein occlusion.

The year 2011 was also the beginning of patent expiries for *Diovan* – our most successful

antihypertensive – in larger European markets. Patent expiry in the US will follow in 2012. Within two years we expect a corresponding decline in sales, which could amount to a drop of USD 4 billion dollars. We expect this will probably be offset by the dynamic growth of new products.

Thanks to a diligent and highly professional approach, the integration of Alcon – the world's leading producer of eye-care products – went smoothly. The synergy targets that were set were exceeded while sales increased by 7% in constant currencies. This new division is thus contributing significantly to the growth of the Group.

The decision to systematically build up our generics business was initially questioned, but is now imitated by other companies. Sandoz, our generics division, shows dynamic growth worldwide and, over the past 12 months, the anticoagulant enoxaparin has become our first generic to generate sales of more than USD 1 billion.

The Vaccines and Diagnostics Division gained market share with *Menveo*, a vaccine for meningitis types A, C, W-135 and Y. *Bexsero* – for meningitis type B, an often fatal infection among newborns – is under regulatory review in Europe. Thanks to its investment in the vaccines producer Zhejiang Tianyuan Bio-Pharmaceutical Co. in China, the division has access to this promising market.

Both the self-medication and animal health businesses showed growth in the single-digit range thanks to their good product portfolios.

While there were many successes, there were also setbacks. A long-term study with the antihypertensive aliskiren showed negative results in high-risk patients with pre-existing renal or cardiovascular disease. For all the advances made in research and development, there were also delays in the regulatory approval of some products.

Particular attention and further efforts are needed regarding quality management in production. As with many competitors, Sandoz received a warning letter from the US Food and Drug Administration, which has tightened up its requirements. For quality assurance reasons we also temporarily stopped production in our Lincoln, Nebraska, US, factory for over-the-counter and animal health products. Remediation actions are now underway including leadership changes and rigorous training. Across our businesses, we decided to proceed with quality-oriented investments at our manufacturing sites.

As a result of government-imposed price cuts and patent expiries, productivity initiatives continue to gain importance. These factors led to some site closures and related product transfers. Research and development also reviewed their operations, which led to the outsourcing of some cyclical activities in development, as well as the reorganization of research activities in neuroscience ultimately resulting in the closure of the department in Basel. Due to the *Diovan* patent expiry, restructuring of our US operations remains an imperative. At the same time, we are increasing our investments in growth regions, such as Asia and South America.

Restructuring is very stressful for associates, especially in an environment of rising unemployment, and it is one of the most unpleasant responsibilities for management. However, a company that fails to make the necessary adjustments to market conditions because of the hardship associated with such decisions will sooner or later pay an even higher price for inaction.

In 2011, Novartis continued its support for patients who are unable to afford treatment. This is especially the case for people in developing countries. For several years now, all the leprosy medicines needed worldwide have been provided free of charge by Novartis in collaboration with the World Health Organization. The 480 million doses of our antimalarial drug *Coartem* that have been sold without profit since 2001 have helped save an estimated 1 million lives – most of them children. This is the largest and most important program of its kind.

Our researchers also recently succeeded in discovering a new and promising class of compounds for the treatment of malaria, known as imidazolopiperazines. Additionally, we are continuing our discovery efforts for new medicines and vaccines to treat neglected diseases mainly occurring in developing countries.

Alcon also conducts pro bono programs in the field of ophthalmology. In India some years ago, Novartis began an innovative initiative with doctors to improve healthcare in rural regions. There is significant demand for this program, which already encompasses 33 000 villages.

In the new year, we will continue to pursue our primary objectives in the field of preventive care and treatment by working to discover innovative medicines and vaccines, as well as by offering low-cost, high-quality generics.

In spite of the uncertain economy – particularly government debt and weak growth – we will pursue our strategy. Continued innovation and expansion in growth markets will remain key to gaining market share in the medium term. At the same time, pricing pressure must be offset by productivity gains, including restructuring activities in certain markets, which we will implement with social responsibility. We must continue to ensure the highest quality standards across the Group. We are building our research and development center in China and also production sites in Brazil and Russia.

We will continue to invest in the training and education of our associates because their competence, motivation and integrity are key to our success. The Executive Committee is committed to enforcing our Code of Conduct worldwide. It is essential that the trust of our stakeholders and the company's good reputation be preserved also in the future.

We are confident that thanks to our pipeline, one of the richest and most promising in the industry, we will be able to continuously contribute to the effective treatment of patients worldwide and thereby grow and generate profits.

I am grateful to all our associates and leaders worldwide for their excellent work during the past year and their continued engagement in the pursuit of our mission.

We also extend our thanks to you, our shareholders, for your loyalty, and are pleased to propose an increase in the dividend to CHF 2.25 for 2011.

Sincerely,

Daniel Vasella, M.D.
Chairman of the Board

BUILDING SUSTAINABLE LEADERSHIP IN HEALTHCARE

Novartis strategy is based on focused diversification. Our broad portfolio focuses on science-based healthcare sectors that are growing, reward innovation and enhance the lives of patients.

PHARMACEUTICALS	ALCON	SANDOZ	VACCINES AND DIAGNOSTICS	CONSUMER HEALTH
Novartis discovers and develops innovative patent-protected medicines that enhance outcomes for patients and healthcare providers. The division is a leader in oncology, primary care and specialty medicines, with an industry-leading pipeline. Innovation has rejuvenated our product portfolio to drive growth, with recently launched medicines representing 28% of division sales in 2011.	Alcon is the global leader in eye care, offering innovative surgical, ophthalmic pharmaceuticals and vision care products to address the world's most pressing eye care needs. As the second-largest division, Alcon adds a dynamic new growth platform to the diversified healthcare portfolio of Novartis.	Sandoz is the number two generics company worldwide, providing affordable, high-quality medicines. Sandoz focuses on differentiated generics that are more difficult to develop, manufacture and market, but that offer higher growth and profitability. Sandoz is also the worldwide leader in biosimilars.	Reflecting a commitment to help prevent disease, Novartis is a leader in influenza vaccines. The division has a broad development pipeline, including an emerging platform of meningococcal vaccines. Our diagnostic tools help safeguard blood supplies and ensure patient safety.	A world leader in over-the-counter medicines (OTC) and animal health treatments, Novartis offers a robust portfolio of self-care products – including cough, cold, respiratory disease, digestive health and pain management medication – as well as veterinary products that prevent and treat diseases in pets, farm animals and cultivated fish.

PATIENT-CENTRIC PORTFOLIO

STRATEGIC PRIORITIES

Extend lead in innovation Our research is driven by a distinctive scientific and clinical strategy, focusing on knowledge of disease and unmet medical need. This approach has resulted in an established track record of pacing our markets through innovation. Since 2007, Novartis has received approvals for more innovative medicines in Europe and the United States than any other company.

Accelerate growth We are tailoring our commercial model to the rapidly changing healthcare environment. Our aim is to better address unmet medical need of patients and achieve positive treatment outcomes for patients. We are also leveraging our broad portfolio to expand aggressively in emerging and established markets.

Drive productivity We strive to continuously simplify and streamline processes, and reduce costs, allowing us to reinvest in innovation.

Joseph Jimenez

INTERVIEW WITH JOSEPH JIMENEZ

WHAT WERE THE HIGHLIGHTS OF 2011 FOR NOVARTIS?

Novartis had another successful year in 2011. We are still well-positioned to take advantage of the positive industry trends but also to offset some of the headwinds. Once again the strength of our diversified portfolio helped us deliver strong growth.

Group net sales climbed 12% in constant currencies and core operating income rose at a rate of 16%, reflecting productivity gains. All divisions helped to achieve this performance, and recently launched products continue to rejuvenate our portfolio and drive growth. Sales of these products rose 38% in 2011 versus the previous year [1] and now account for about 25% of total Group net sales. Free cash flow was also very strong.

Looking beyond financial metrics to strategic priorities, I am proud of the innovation that we delivered in 2011. Fundamentally healthcare is a growth industry, and a key success factor is our ability not only to innovate but also to transform the potential of our pipeline into new products that drive sales. We gained key approvals and advanced development of important medicines and vaccines during 2011.

Importantly, we also completed the acquisition and integration of Alcon, adding the world leader in eye care as a new growth platform. Group sales in emerging markets climbed 17% and now represent 10% of our total net sales. Productivity gains, particularly in procurement, generated cost savings of more than USD 2 billion, beating the figure for 2010.

While results were strong, Novartis is facing an increasingly difficult external environment that is likely to get even tougher over the next few years. The global debt crisis is forcing governments to cut spending, and healthcare is a prime target. On top of pricing pressure, upcoming patent expirations will slow growth of our Pharmaceuticals Division during 2012 and 2013. We took action in 2011 to prepare the company for this external environment.

WHAT IS THE OUTLOOK FOR PERFORMANCE OF THE COMPANY?

We live in extraordinarily volatile times. This makes it even more difficult to give a reliable outlook. But based on what we know, I believe Novartis is the best positioned company in healthcare. We focus on science-based innovation that is spread across multiple high-growth segments of healthcare. It's critical to have the best scientists and to maintain a high level of investment in research and development because breakthroughs in medicine will drive our growth in the future.

We have entered an important period in the company's history during which we will lose patent protection on *Diovan* and other key products. In major European markets, *Diovan* patents began to expire in November 2011, and we will lose exclusivity in the United States in September 2012. *Femara* patents also began to expire in 2011, with generics entering the US market in April. This will clearly have an impact on growth, but based on current projections we expect

[1] Excluding A (H1N1) vaccines; including Alcon on a pro forma basis for 2010

to be one of the few companies to actually offset losses during a period like this.

SALES GROWTH ACCELERATED IN THE TOP SIX EMERGING MARKETS LAST YEAR. WHAT WERE THE KEY DRIVERS?

Net sales in our top six emerging markets rose 17% in constant currencies during 2011, representing 10% of Group net sales. China was a major success story, with net sales climbing 38% in constant currencies. A new local management team leading the Pharmaceuticals Division concentrated on marketing and sales skills, and the new decentralized organization introduced last year covering inland provinces in China is starting to pay off.

Expanding our presence in China – as well as in other fast-growing countries such as Brazil, Russia and India – is critical to our long-term growth strategy, and we achieved several milestones during 2011. Novartis completed the purchase of an 85% holding in Zhejiang Tianyuan Bio-Pharmaceutical Co., one of China's largest privately held vaccine companies. The agreement is expected to enable Novartis to deliver a broad range of vaccines in China.

Also this year, the Vaccines and Diagnostics Division began design of its first plant in Brazil. The plant will be located in the Northeast coastal state of Pernambuco and is expected to produce vaccines against meningococcal disease when it comes onstream in 2014.

Novartis also began construction of a pharmaceutical manufacturing plant in St. Petersburg, Russia, our most significant investment in Russia to date. The new facility is expected to manufacture innovative pharmaceuticals as well as high-quality generics for patients in Russia. It is part of a broader package of investment by Novartis in Russia that also includes research and development and public health initiatives in tuberculosis, and a program in Yaroslavl that aims to reduce the high prevalence of hypertension.

HOW HAS THE INTEGRATION OF THE NEW ALCON DIVISION PROGRESSED SINCE CONSOLIDATION IN APRIL?

Alcon was one of our fastest-growing divisions during 2011 with pro forma net sales growth of 7% in constant currencies. That tells me that Alcon management has not let the integration work get in the way of great execution.

The surgical and ophthalmic pharmaceuticals businesses drove Alcon's performance. Another highlight was 22% growth (constant currencies) in pro forma sales in the top six emerging markets, led by China, South Korea and India.

Eye care exemplifies the changing demographics and aging of populations that will increase demand for healthcare in the future. Alcon has built leadership positions across all of its businesses, and the new division provides a stronger vehicle for the contact lens business, which is now expected to have a great platform for growth. The global rollout of *Dailies Total 1*, a new generation of daily disposable contact lenses, began in selected European markets during the fourth quarter and is planned to expand during 2012.

The new division was accretive to Group core income margins, and there is expected to be a further boost to margins from cost synergies of USD 350 million by 2013. The complementary nature of the businesses means we expect to grow faster together than either Novartis or Alcon would have managed on its own.

NOVARTIS ANNOUNCED STRUCTURAL CHANGES TO REDUCE COSTS. WHY WAS THIS NECESSARY?

We are implementing a program to reduce our cost base – including consolidation and transfer of some manufacturing and research and development activities. These initiatives will take place over the next three to five years, but we wanted to be transparent about our plans as early as possible so associates affected can prepare for the future.

I get a lot of questions about why we would announce plans for cost reductions at a time when the company is doing so well. We must address the increasingly challenging external environment from a position of strength. To continue to be successful we need to reduce our cost base. In this sense, cost savings are strategic. They allow us to maintain strong levels of research and development spending, which leads to innovation and, in turn, sales growth.

At Novartis innovation is at the center of everything we do, and we plan to keep our spending on research and development at the high end of the healthcare industry.

Because of the success of our research around the world, we have a growing number of compounds entering development. Simplifying our organization is a way to free up resources to invest in new research platforms and projects, and ensure we keep our track record of innovation going.

RECENTLY LAUNCHED MEDICINES HAVE FUELED GROWTH AT THE PHARMACEUTICALS DIVISION IN RECENT YEARS. DID THAT PORTFOLIO TRANSFORMATION CONTINUE?

The Pharmaceuticals Division continues to deliver robust sales growth, through outstanding launches of new medicines such as *Gilenya* as well as important new indications for approved medicines, including our anticancer treatment *Afinitor/Votubia*. The division has also managed its cost base extremely well.

A year ago, *Gilenya* was still in registration, and the launch to date has outpaced benchmarks for existing multiple sclerosis therapies. More than 25 000 patients are being treated with commercial drug. We completed reimbursement negotiations in several countries in Europe as well as in Asia. In another important milestone, *Gilenya* was approved in Japan during September.

Sales of *Lucentis* rose 26% in constant currencies during the year, mainly in treatment of the "wet" form of age-related macular degeneration (AMD). *Lucentis* has been approved for two new indications – diabetic macular edema and retinal vein occlusion. Each of these indications represents a new market comparable in size to wet AMD.

Tasigna – the second-generation treatment for chronic myeloid leukemia – grew strongly and now represents more than 19% of sales in our CML franchise. One newly diagnosed CML patient in three begins treatment with *Tasigna*, an important gauge of how the market is likely to evolve in coming years.

In the landmark BOLERO-2 clinical trial, *Afinitor* in combination with the aromatase inhibitor exemestane more than doubled progression-free survival of women with metastatic estrogen-receptor-positive breast cancer. We have submitted regulatory filings in that additional indication and, if approved, *Afinitor* could help potentially tens of thousands of women with advanced breast cancer who lack effective treatment options today.

HOW DID OTHER DIVISIONS PERFORM IN 2011?

At the Vaccines and Diagnostics Division, the meningococcal franchise is growing strongly, driven by market share gains for *Menveo* in the United States. *Bexsero,* our meningococcal serogroup B vaccine, is under review in Europe, and has the potential to protect against the most common cause of bacterial meningitis in European countries.

The Sandoz Division delivered robust growth in 2011 – with great sales execution in many regions of the world. Sandoz enoxaparin became our first generic "blockbuster," achieving sales of more than USD 1 billion in its first 12 months on the US market. The outlook for the generics industry is very positive going forward: Generics help lower healthcare costs for payors around the world, and demand for high-quality generics is expected to remain strong in coming years. We also expect dynamic growth in the rapidly emerging segment of biosimilars, where Sandoz is the global leader, with three marketed products and a strong pipeline.

However Sandoz tends to have greater year-to-year volatility than other Novartis divisions due to limited periods of exclusivity, which are a fundamental part of the generics business. It can be difficult to deliver strong growth coming off a high base like 2011 – especially if Sandoz no longer markets the only generic version of enoxaparin available in the United States in 2012.

Our consumer-based OTC and Animal Health businesses help to balance periodic volatility at Sandoz and Pharmaceuticals. Both OTC and Animal Health have historically outgrown their markets, reflecting global positions as number one or two in niche categories in their respective industries. As predominantly self-pay businesses less dependent on reimbursement, OTC and Animal Health also provide a degree of insulation from the current financial pressure on governments and other major payors.

YOU HAVE BEEN A DRIVING FORCE BEHIND THE LAUNCH OF THE INTERNAL INITIATIVE BE HEALTHY. WHAT INSPIRED YOUR INITIATION OF THE PROGRAM DURING 2011?

I believe Novartis has a responsibility to offer all Group company associates the tools they need to live healthier lives. We are a healthcare company, and healthcare starts with our own employees. Be Healthy is a voluntary global initiative with four components: encouraging physical exercise, choosing a healthy diet, fostering greater awareness of key health indicators, and offering support for associates who become ill to manage their illness and ultimately return to work.

We rolled out the program to 76 Novartis Group company sites during 2011, and the remaining sites around the world will be added during 2012. We held a celebration week in September to build awareness but this isn't a once-a-year initiative. We all need to keep our health top-of-mind and think about small changes to keep us in better shape – from daily exercise to low-cost healthy meals that we have introduced in Novartis cafeterias.

WHAT ADVANCES HAS NOVARTIS MADE IN ENHANCING ACCESS TO MEDICINE AND IN CORPORATE RESPONSIBILITY OVERALL?

At Novartis our mission is to care and to cure. This means a strong commitment to underserved populations to ensure access to medicines. Novartis reached 89 million patients in need through access-to-medicine programs during 2011, and we continued to make progress on some of our important programs against so-called neglected diseases.

The Novartis Malaria Initiative entered a new phase following expiration of our 10-year partnership with the World Health Organization to provide *Coartem* at no profit for use by public health systems in developing countries. Underscoring our commitment to the battle against malaria, Novartis plans to continue to provide *Coartem* to developing countries on the same terms.

We received several awards for SMS for Life, a collaboration developed by Novartis to help prevent rural clinics in Africa from running out of critical malaria treatments. Using mobile phone text messages, rural clinics report levels of medicines they have in stock once a week, and distribution sites use the information to schedule more deliveries. SMS for Life was first introduced in Tanzania and is being expanded to other countries.

Novartis also continues to lead the global effort to eradicate leprosy. For more than 20 years, we have provided the only multidrug therapy for leprosy free to patients. In Brazil, Novartis has sponsored a mobile clinic that travels to remote areas of the country to provide diagnosis and treatment for patients who otherwise would not receive therapy.

I am pleased that Alcon, our newest division, also has a strong track record in corporate responsibility. Alcon's corporate giving, focused on broadening access to eye care in developing markets and local communities, complements our commitment to reaching more patients and addressing significant unmet medical need.

Our company's shared commitment to corporate responsibility rests with every Novartis associate. We made progress on governance of corporate responsibility during 2011, anchoring it more strongly within the Executive Committee. George Gunn, Division Head, Animal Health, assumed an additional position as Head of Corporate Social Responsibility.

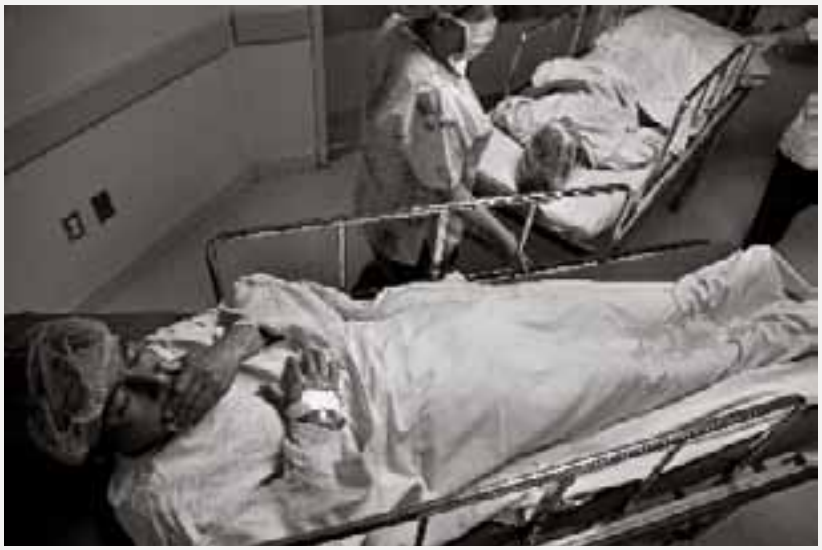
We can all be proud of what Novartis has accomplished in enhancing access to medicine worldwide.

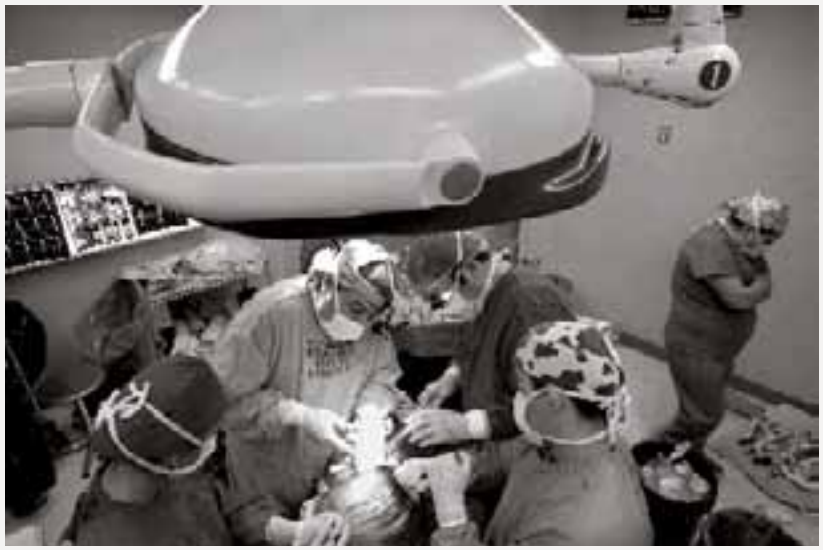
Life in a circle

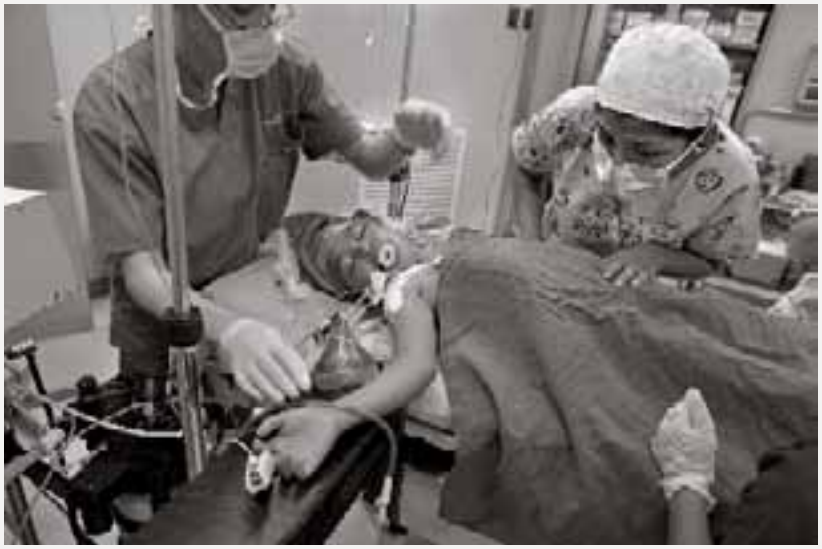
JUAN MEJÍA MIRANDA: "As a parent, I have an obligation to take life as it comes. When your children are sick, you can't just stand there hoping, with your fingers crossed. My daughter is the patient and tomorrow I am giving her my kidney, and I'm overjoyed.

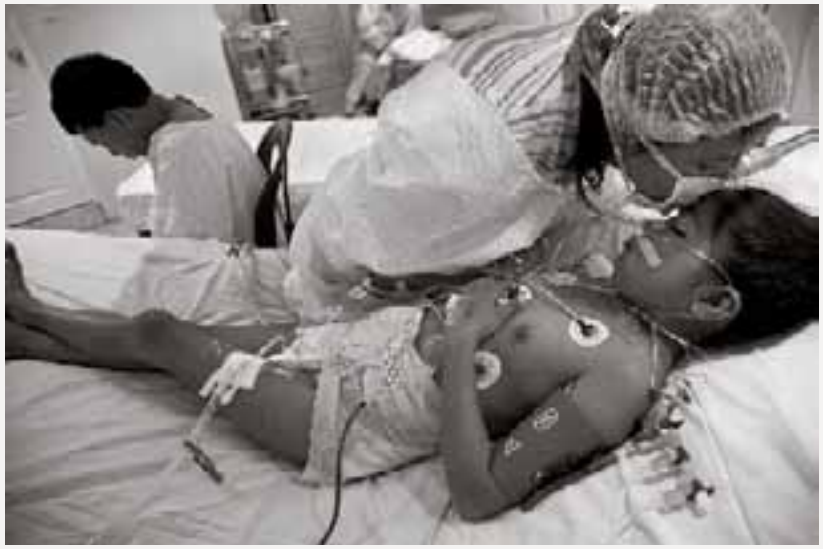
"My daughter's name is Dayrin Elizabeth Mejía Garcia. She was born on October 12, 1995. My person is, I'm 38 years old and from a little village in Petén, which is 500 kilometers from this hospital, from Guatemala City. I had studied accounting, but because of the lack of employment, nowadays I work in construction and earn 1 975 quetzales a month ($258), the minimum wage. There are five children – four boys and Dayrin is the only girl – so we don't have the money to go to private clinics. We use the national hospital to get the services. And I'm thankful. Dayrin has been having problems with her health since she's been born. She was born at home and the midwife was the first one to see the little ball at the bottom of her column, of her spine. Clinically that name is myelomeningocele. And the fear was terrible, because people in the village told my wife, Miria, that our daughter would never be able to walk, or talk. But before she was one year old, my daughter was walking, though most kids who suffer this disease cannot. Then she again broke the barrier, and said 'Mami' and 'Papi.'

"From that time we began traveling back and forth from our village to get help. The doctors said she would need a surgery. When she was three years old, they did the first one. But after that operation, Dayrin still had little repeats of problems, again and again. I remember that even before she began school, we explained to the teachers what she had,









and they gave my wife permission to go into the school and change her diapers. After that, sometimes, the children would tease my daughter about her size – she is very, very small for her age – and the diapers. But even now she cannot control her pee; it's from the myelomeningocele. Six years after that first surgery, the doctors told me Dayrin had a neurogenic bladder. The way I understand it, her bladder is too small, and because the walls of the bladder are not able to contain the pee, it goes back to the kidneys and that's why the kidneys get sick.

"Now this is my first time as a patient, but I'm really feeling very calm because I know that I'm going to do what no one else is going to do for my child. Finally, she will be transplanted. For the past six months, three times a week, three hours a day, Dayrin has been on dialysis, which is for purifying the blood. But of course she doesn't like this. Because of these treatments, she had no opportunity to go to school, and was really sad. So I made a solemn promise that next year she's going to school. Trying to keep her from getting depressed, we've reminded her that after the transplant she will be able to go home.

"But like I said, I am not at all nervous. My wife, though, is completely nervous, and has been ever since the surgery on Dayrin last year, when they had to reconstruct her bladder. That surgery was six hours long. Miria was hesitating and scared about the transplant, because I am the only one who is working and providing food for the family. But I got her to agree."

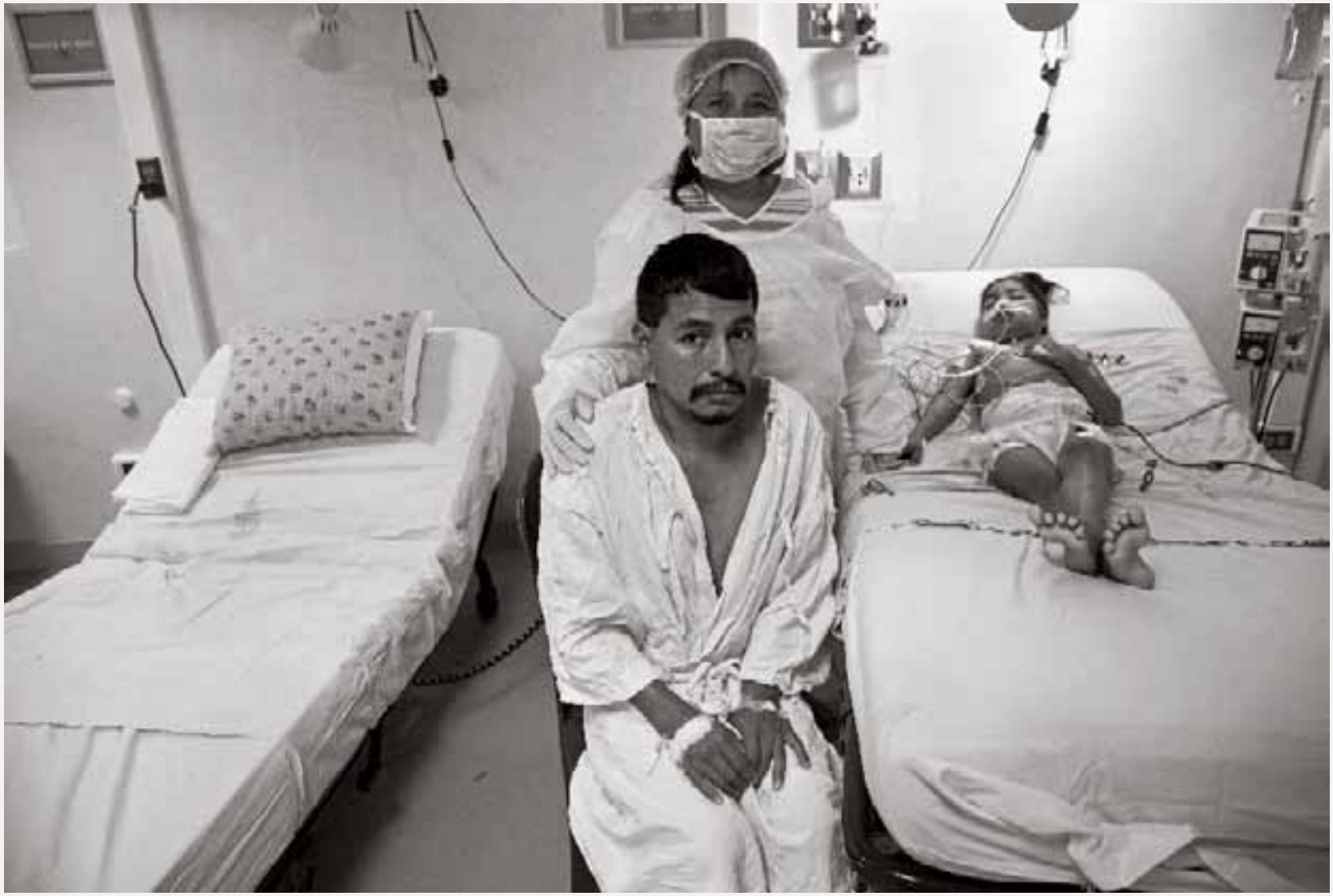
Two days later

"I remember nothing about the surgery. Nothing, nothing. Except someone was talking to me this way, someone the other way. Pain, there was a lot at first. A lot. Then I got worried. After they had us back in our room, they were hurrying around my daughter, working with her,

battling for her. She was in danger. It was real complicated, her surgery, and Dayrin had a lot of water remaining in her body. They had to dialyze her. Then when I could finally speak to Dayrin I tried to motivate her, tell her that though the difficult days are not all over and ahead of us is a long healing process, this is a chance for her to continue her life.

"Today, they woke me up at 6 a.m. to take a bath. They want me to be active. So yeah, I walked. And I have a scar that's really special. And my daughter also has a special scar. The doctors are telling me because of this surgery and the medicines, my daughter's body is already working different than it used to. She'll be able to live 20 years more. And if science today starts creating more medicines, she might live 30 or 40 years more. Now I don't have the specific words to thank everyone. Since Roosevelt Hospital is the national hospital, I don't have to worry about paying. And I'm so grateful for the Fundanier Foundation, which helps children with renal problems, and for its founder Dr. Randall Lou Meda; for the hospital director; for the surgeons, pediatricians and nurses in this place that's a long way from where I live. And I'm grateful for my wife, who has suffered a lot raising our daughter; for my father, who was an exemplary father; for my wife's mother and my mother who sometimes helped my family when I went to work.

"You can say now that this time with my daughter has been like life in a circle – from birth to rebirth. I do believe God has a plan for each human being and a path that is written, and that each of us has to accomplish that journey. Because when the time comes, he's going to ask for an accounting. And what are we going to say to him?"



HEALTHCARE PORTFOLIO

In 2011, our products reached more than 1.1 billion patients around the world, according to internal estimates.

While healthcare remains a growth industry, both positive and negative trends are affecting the way we operate. Rapid aging of the population, greater access to healthcare in emerging markets and advances in science create opportunities to enhance the lives of patients.

At the same time, an uncertain economy, pricing pressures, regulatory issues and patent expirations exert downward pressure. Tensions will grow as healthcare spending outpaces economic growth.

Novartis is a leader in navigating these pressures and meeting changing customer needs. Our strategy of focused diversification helps us to fully leverage the changes in our industry while balancing risk.

CONTENTS

HEALTHCARE PORTFOLIO OVERVIEW[1]

2011 NET SALES BY SEGMENT
(% and in USD millions)

Pharmaceuticals	56	32 508
Alcon	17	9 958
Sandoz	16	9 473
Vaccines and Diagnostics	3	1 996
Consumer Health	8	4 631
Total		**58 566**

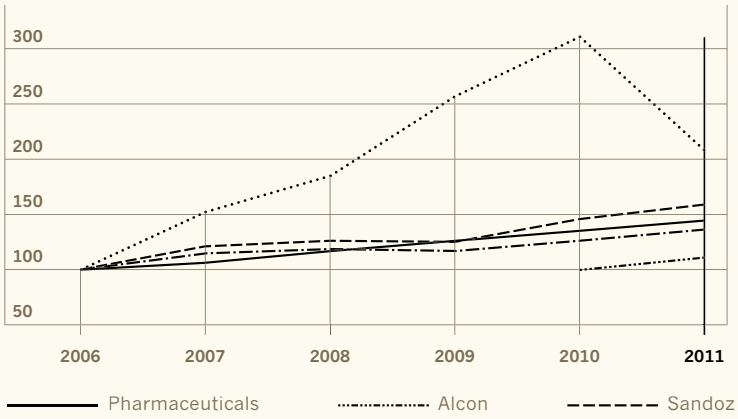
2011 CORE OPERATING INCOME[3] BY SEGMENT
(% and in USD millions)

Pharmaceuticals	61	10 040
Alcon	21	3 492
Sandoz	12	1 921
Vaccines and Diagnostics	1	135
Consumer Health	5	873
Corporate Expenses, net		– 552
Total		**15 909**

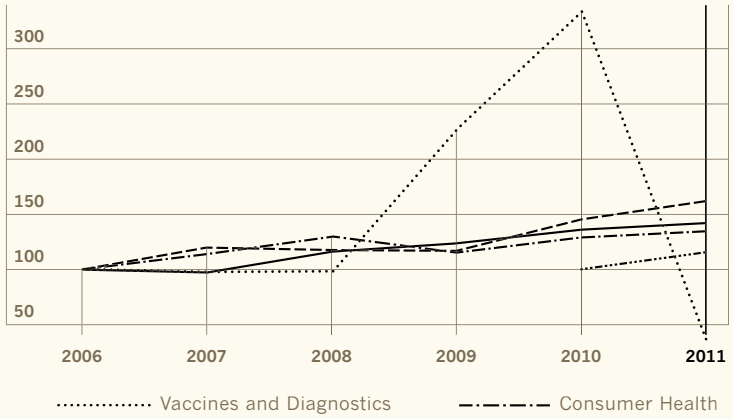
2011 NET SALES BY REGION AND SEGMENT
(% and in USD millions)

	Pharmaceuticals		Alcon		Sandoz		Vaccines and Diagnostics		Consumer Health	
United States	31	9 973	38	3 810	35	3 300	37	737	30	1 405
Europe	36	11 595	29	2 835	47	4 445	33	668	43	1 964
Asia/Africa/Australasia	24	7 928	22	2 207	11	1 064	19	373	17	782
Canada and Latin America	9	3 012	11	1 106	7	664	11	218	10	480
Total		**32 508**		**9 958**		**9 473**		**1 996**		**4 631**

NET SALES BY SEGMENT[2]
(Index: 2006 = 100%; Alcon only consolidated from August 25, 2010.
However, Alcon 2011 growth rate is based on pro forma full year data for 2010)



CORE OPERATING INCOME[3] BY SEGMENT[2]
(Index: 2006 = 100%; Alcon only consolidated from August 25, 2010.
However, Alcon 2011 growth rate is based on pro forma full year data for 2010)



[1] Data since 2009 has been restated to reflect new segment allocation introduced in 2011 as explained in detail on page 159.
[2] 2006-2011 for Consumer Health only includes OTC and Animal Health
[3] Core operating income eliminates the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.

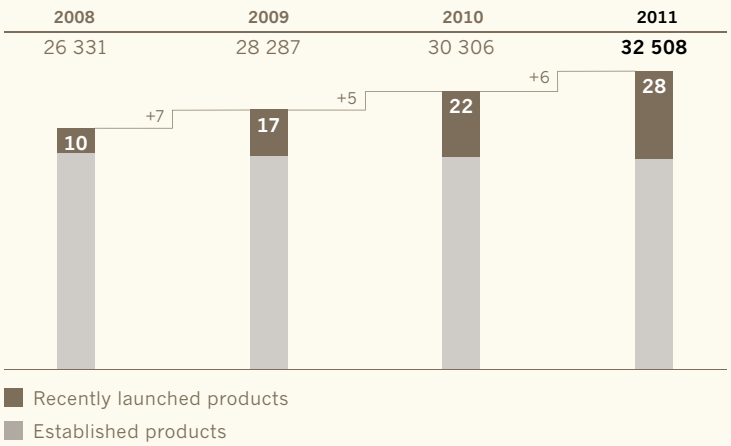
PHARMACEUTICALS OVERVIEW

KEY FIGURES
(in USD millions, unless indicated otherwise)

	2011	2010[1]
Net sales	**32 508**	30 306
Operating income	**8 296**	8 471
Return on net sales (%)	**25.5**	28.0
Core operating income[2]	**10 040**	9 586
Core return on net sales (%)	**30.9**	31.6
Core Research & Development[2]	**6 860**	6 344
As % of net sales	**21.1**	20.9
Free cash flow	**10 789**	10 355
Net operating assets	**13 696**	15 212
Additions to property, plant & equipment[3]	**1 041**	777
Number of associates (FTE)[4]	**60 527**	59 409

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159.
[2] Core operating income eliminates the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.
[3] Excluding impact of business combinations
[4] Full-time equivalent positions at year end

PORTFOLIO REJUVENATION
(Share of sales from recently launched products[1] in %)



[1] Major products launched since 2007 including *Lucentis*, *Tasigna*, *Exjade*, *Sebivo/Tyzeka*, *Exforge*, *Galvus*, *Aclasta/Reclast*, *Cubicin*, *Exelon* Patch, *Afinitor/Votubia*, *Tekturna/Rasilez*, *Extavia*, *Onbrez*, *Gilenya*, *Fanapt* and *Ilaris*

NEWS IN 2011

Recently launched products drive portfolio rejuvenation across therapeutic franchises.

Net sales rise 7% (+4% in constant currencies, or cc) to USD 32.5 billion. Europe (USD 11.6 billion, +2% cc), our largest region, maintains strong volume growth, more than offsetting the negative impacts of healthcare cost-containment measures and generic erosion. Our top six emerging markets (USD 3.2 billion, +7% cc) are led by double-digit growth in China and India. Growth is solid in Japan, Latin America and Canada; the US is flat, contributing 31% of net sales for the division.

Products launched since 2007 (USD 9.2 billion) comprise 28% of division net sales, up from 22% in 2010. Key growth drivers include *Lucentis*, *Tasigna*, *Afinitor*, *Gilenya*, *Exforge*, *Galvus*, *Exelon* Patch, *Exjade*, *Reclast/Aclasta* and *Onbrez Breezhaler*.

Operating income declines 2% (+4% cc) to USD 8.3 billion, following net exceptional charges including amortization of USD 1.7 billion (including USD 903 million for *Tekturna/Rasilez* in the fourth quarter). Core operating income advances 5% (+8% cc) to USD 10.0 billion.

Constant currency core operating income margin expands by 1.4 percentage points due to continuing productivity efforts. However, this improvement was offset by a negative currency impact of 2.1 percentage points, resulting in a net decrease in core operating income margin of 0.7 percentage points to 30.9 % of net sales.

Promising development pipeline, with more than 130 projects, achieves 15 major regulatory approvals in 2011. *Gilenya*, our multiple sclerosis treatment, gains approval in EU, Switzerland, Japan and many other countries. *Afinitor/Votubia* is approved in US and Europe for subependymal giant cell astrocytomas associated with tuberous sclerosis and advanced pancreatic neuroendocrine tumors. *Lucentis* gains two new EU approvals to treat diabetic macular edema and retinal vein occlusion. In late December, following the seventh interim review of data from the ALTITUDE study with *Tekturna/Rasilez*, Novartis announced that the trial was halted on the recommendation of the independent Data Monitoring Committee overseeing the study.

PHARMACEUTICALS

Novartis Oncology has built one of the industry's broadest pipelines of anticancer medicines, with more than 20 pivotal clinical trials ongoing. Oncology is a forerunner of the strategy at the Novartis Pharmaceuticals Division, using companion diagnostic tests to match the right drug with the right patient and explore the full potential of innovative medicines.

On June 29, 2011, an Independent Data Monitoring Committee met in Newark, New Jersey, for a scheduled interim review of BOLERO-2, a clinical study of the Novartis medicine *Afinitor* in treatment of advanced breast cancer.

Because important studies like BOLERO-2 can take years to complete, interim analyses are designed to assess safety data and critical efficacy endpoints without comprising scientific integrity. The stakes are high. Independent Data Monitoring Committees can recommend continuation, modification or even termination when there is compelling evidence that one treatment is superior to the comparator.

For BOLERO-2, the Committee's verdict was unequivocally positive. The interim review showed that the study's primary endpoint had been met: Everolimus, the common name for *Afinitor*, in combination with the aromatase inhibitor exemestane, significantly extended time without tumor growth in postmenopausal women with estrogen-receptor-positive but human epidermal growth factor receptor 2 (HER2)-negative metastatic breast cancer, who had failed initial endocrine therapy. The trial was stopped early and data from BOLERO-2 formed the basis for worldwide regulatory submissions that are currently pending.

Everolimus had previously been approved in Europe and the United States for multiple indications, from prevention of rejection in organ transplants to treatment of advanced renal cell carcinoma in patients whose disease has progressed after treatment with vascular endothelial growth factor-targeted therapy such as sunitinib or sorafenib. Those approvals were just the beginning of a bold program of parallel clinical trials.

In October 2010 the US Food and Drug Administration (FDA) approved everolimus as the first medication for children and adults with subependymal giant cell astrocytoma (SEGA), a benign brain tumor associated with the genetic disorder tuberous sclerosis. European regulators followed suit in September 2011. Moreover, during 2011 both the FDA and European regulators approved *Afinitor* as the first new treatment in nearly three decades for patients with advanced pancreatic neuroendocrine tumors, a rare but aggressive cancer for which there have been limited treatment options.

Parallel with the BOLERO-2 study, everolimus is being investigated in pivotal studies for treatment of patients with HER2-positive advanced breast cancer. Clinical trials are also ongoing in liver cancer, as well as a form of benign kidney tumors associated with tuberous sclerosis complex.

The success of everolimus underscores the rejuvenation of the product portfolio and commercial model at the Pharmaceuticals Division's Oncology Business Unit. Oncology sales rose 3% in constant currencies during 2011, buoyed by dynamic growth of everolimus and *Tasigna*, a second-generation treatment for chronic myeloid leukemia. "The products that grew fastest are the ones that are most important for our long-term success," said Herve Hoppenot, President, Novartis Oncology.

Growth of new products more than offset loss of patent protection on *Femara*, a blockbuster treatment for breast cancer. Novartis Oncology also is set to lose exclusivity on *Zometa*, another blockbuster medicine, by 2013. "It is the nature of our business: We receive patents in recognition of innovation, we develop medicines and grow sales during the years we have exclusivity, but ultimately we lose them," Mr. Hoppenot said. "Obviously, we have been preparing for this for several years."

Along with its new medicines, Novartis Oncology has a packed pipeline of targeted anticancer treatments undergoing clinical trials. "The field of oncology is in the middle of a complete revolution – it is a turning point in treating cancer," Mr. Hoppenot said. "We are learning to treat these patients intelligently. And if we are successful in following the direction in which science is leading us, there is enormous potential to transform treatment of cancer in the same way antibiotics changed the world in the 20th century or the first effective medicines changed HIV / AIDS from a deadly disease to one with which patients could live relatively normal lives for a long time."

Just as everolimus has already won approval for multiple disease indications, Mr. Hoppenot believes cancer treatments in the future will build sales through layers of indications for use in specific patient populations. "Breakthroughs in the future will be drugs where we understand the biological target very well, understand the mechanism of action very well and have developed diagnostic tools to identify the right patients to be treated with these novel products," he added.

Meanwhile, significant investment in recent years has strengthened development teams in countries such as Japan and China, which traditionally lagged Europe and North America in testing and approval of new cancer medicines. That global infrastructure is essential to parallel development of multiple indications as seen in the *Afinitor* program. Recruitment of patients can be challenging, especially for studies of targeted medicines in relatively uncommon types of cancer. "We need to involve a large number of cancer centers around the world to identify sufficient numbers of patients who have exactly the type of mutation or pathway abnormality we are looking for," Mr. Hoppenot said.

The *Afinitor* prototype of early studies of a drug in multiple parallel indications will be a common model for Novartis Oncology in the future. "We would rather start earlier in multiple directions than follow a traditional, sequential approach to development," Mr. Hoppenot added. "Speed is crucial – there will be competition for each indication."

And Novartis Oncology is a forerunner of the strategy at the Pharmaceuticals Division. "The whole idea of matching the right drug with the right patient at the right dose and the right time was really born out of Oncology," said David Epstein, Division Head, Novartis Pharmaceuticals, and member of the Executive Committee of Novartis.

"There are multiple lessons from Oncology that we are applying to our expanding portfolio of specialty medicines. One is the importance of understanding genetics, and how each patient is different and responds individually to a medicine. That puts a premium on use of a companion diagnostic test to ensure the drug prescribed hits the pathway that is actually responsible for the patient's disease. We also are developing technological interventions such as remote monitoring to optimize the outcome of treatment for patients. And just as with *Afinitor*, Pharmaceuticals plans to conduct broad development programs, including parallel clinical trials in multiple indications, for most of our drugs."

TRANSLATIONAL MEDICINE

The emerging wave of targeted therapies reflects a modern view of cancer as a disease caused by genetic defects in key molecular pathways. These pathways play an important role in cell growth and development in normal cells. Sometimes, however, these pathways can be abnormally activated or deregulated by genetic changes, leading to the uncontrolled cell proliferation characteristic of cancer. Breakthroughs such as *Gleevec/Glivec* – the pioneering medicine from Novartis for treatment of chronic myeloid leukemia, gastrointestinal stromal tumors and other types of rare tumors – demonstrated how targeting an underlying genetic defect could halt or delay progression of cancer and keep a large proportion of patients in remission for years.

Novartis Oncology has built one of the industry's broadest pipelines of targeted anticancer medicines. Innovative therapies with almost a dozen different mechanisms of action are currently being tested in more than 20 pivotal clinical trials. Development programs for these targeted therapies are as groundbreaking as the drugs themselves.

Oncology Translational Medicine is responsible for testing new drugs in carefully selected subgroups of patients based on the molecular target of the compound. "Novartis has an unwavering commitment to patient selection," said Barbara Weber, M.D., Global Head, Oncology Translational Medicine, at Novartis. "All our new compounds are being developed with a strategy for enriching the study with patients most likely to benefit from the new drug."

One example is the portfolio of PI3 kinase inhibitors, a promising class of anticancer drugs, where Novartis Oncology is developing three compounds in parallel. "Scientific data indicate strongly that PI3 kinase inhibitors give the greatest benefit for patients who have genetic alterations in the PI3 kinase pathway," Dr. Weber explained. "With our newest PI3 kinase inhibitor, we opened the Phase I study only to patients with PI3 kinase pathway mutations, an approach that to our knowledge has not been taken before. Despite concern that patient selection would slow down our studies, accrual has gone exceptionally well. External investigators think it is the right thing to do for patients and for drug development, and have been fully behind us."

One challenge for both standard chemotherapies and targeted anticancer agents is that some patients fail to respond or eventually develop resistance to treatment. The BOLERO-2 study demonstrated the value of combination therapy in overcoming resistance. "Signaling pathways talk to each other, and sometimes inhibiting one pathway will trigger activation of a backup pathway," Dr. Weber added. "We know that with few exceptions, optimal treatment is going to require combinations, so we are moving forward quickly with combinations of our new drugs, particularly with our PI3 kinase inhibitors."

MASTER SWITCH

Everolimus inhibits mammalian target of rapamycin, or mTOR. A biological master switch located at the intersection of several major signaling pathways, mTOR controls key cellular functions ranging from metabolism and growth of cells and tumor cell division, to angiogenesis, or growth of new blood vessels.

Everolimus was synthesized in 1992, and development of the new medicine progressed simultaneously with elucidation of the mTOR pathway. Initial preclinical testing showed that inhibition of mTOR suppressed the immune system, and development confirmed that potential. Under the brand names *Certican* and *Zortress*, everolimus has been approved in more than 70 countries for use in kidney and heart transplantations.

By the late 1990s, however, Novartis researchers began to explore the potential of everolimus in treatment of cancer. Normally, cells keep the machinery responsible for growth and proliferation under tight control, but the PI3 kinase/mTOR pathway is activated by genetic mutations affecting many different nodes. Everolimus works against different types of cancer in which activation of the mTOR pathway is a common feature. "mTOR is located strategically at the bottom of multiple signaling pathways in the cell," Dr. Weber said. "Regardless of the exact genetic alteration upstream, all roads lead into mTOR."

Tuberous sclerosis complex, the inherited brain disorder, offers a model of aberrant activation of mTOR and the therapeutic benefit of mTOR inhibition. TSC1 and TSC2 are nodes in the PI3 kinase/mTOR signaling cascade located upstream of mTOR, and their normal function is to keep the mTOR switch in the inactive position. Mutations in TSC1 or TSC2 activate the mTOR pathway, leading to abnormal growth of tumors in the brain, kidneys, skin and other vital organs.

Regulatory applications for everolimus in treatment of SEGA associated with tuberous sclerosis were based on a study conducted by Cincinnati Children's Hospital Medical Center in which nearly a third of patients experienced a reduction of 50% or greater in the size of their largest SEGA tumor after six months of treatment. None of the patients developed a new SEGA tumor while receiving everolimus.

DRIVING TUMOR GROWTH

Some breast tumors need hormones to grow and for more than a century, the hormone estrogen has been linked with progression of breast cancer, driving tumor growth and cell proliferation in an estimated 70% of all

breast cancer cases. When diagnostic assays show that a breast tumor has estrogen receptors, hormone therapy is most often recommended as a treatment option.

"Biology always told us that activation of mTOR is linked with development of resistance to hormonal therapy, and evidence from preclinical studies confirmed that hypothesis. Based on this evidence we took the risk of running a large Phase III trial," explained Alessandro Riva, M.D., Head of Global Development and Medical Affairs, Novartis Oncology. "The success of BOLERO-2 could change the treatment paradigm for estrogen-receptor-positive metastatic breast cancer; in the future, we expect *Afinitor* to become a key component in combination therapy to avoid the onset of resistance," he added.

Afinitor is also being tested in a different combination for treatment of another form of breast cancer caused by a protein called HER2, which promotes the growth of tumor cells. HER2-positive tumors tend to be more aggressive than other types of breast cancer, and they are less responsive to hormone treatment.

A therapy called trastuzumab (marketed by Roche Holding AG under the brand name Herceptin®) has transformed treatment of HER2-positive cancer, but a recent editorial in the *Journal of Clinical Oncology* observed that many patients with HER2-positive breast cancer will either not respond to Herceptin® or develop resistance to the drug. "Understanding and overcoming resistance is a critical step toward the improvement of outcomes for this subtype of breast cancer," the authors wrote.

Novartis is conducting two trials of the combination *Afinitor*/Herceptin® in treatment of HER2-positive breast cancer. "Just as with estrogen-receptor-positive breast cancer, biology clearly tells us that patients who carry amplification of HER2 also have a link with activation of the PI3 kinase pathway and downstream activation of mTOR," Dr. Riva said. "Preclinical data indicate that if we inhibit the mTOR pathway, we may achieve a synergistic effect with Herceptin®." The BOLERO-1 and BOLERO-3 studies are recruiting well, Dr. Riva added, and Novartis expects to disclose results of the studies by late 2012 or early 2013.

PRE-EMPTING RESISTANCE

Studies testing everolimus in combination therapy reflect a broader challenge: Inhibition of mTOR appears to activate other pathways that can lead to emergence of resistance. One way to pre-empt resistance could be to target two nodes in the PI3 kinase/mTOR pathway or even two separate pathways simultaneously.

"The idea underlying combination therapy is that, if we could hit the cancer cell a little bit harder in a smart way, its defenses should fall apart," said David Lebwohl, M.D., Global Program Head *Afinitor*. "We are trying to learn where we see activity and what combinations make sense."

One combination to be tested will be everolimus and a PI3 kinase inhibitor. PI3 kinase is a critical regulator of cell growth and survival. "mTOR is the lowest of the potential targets in the pathway, so going upstream is a natural progression," said Samit Hirawat, M.D., who leads the PI3 kinase inhibitor development program.

But there are also potential pitfalls. "As you go higher and higher above mTOR in the pathway, you have to start screening patients for the specific genetic defect targeted by your drug," Dr. Hirawat observed. In patients with either overexpression of HER2 or mutations in the Epidermal Growth Factor Receptor, "therapy is only effective when the receptor is overexpressed or when there is presence of an activating mutation in the tumor," he added.

For patients entered into studies with PI3 kinase inhibitors, tissue is collected and

prospectively analyzed for several biomarkers. "Patients are stratified according to whether they carry mutated versions of the gene encoding PI3 kinase, or inactive versions of PTEN, a tumor suppressor gene often dysfunctional in cancer patients," Dr. Hirawat explained. Other biomarkers also are included in study protocols but haven't been publicly disclosed.

Emulating the *Afinitor* model, the clinical program for PI3 kinase inhibitors is planned to include parallel trials in multiple indications, ranging from endometrial and lung cancers to breast cancer and glioblastoma, the most common form of brain tumors. The three PI3 kinase inhibitors have distinctive mechanisms of action. BKM120 is a PI3 kinase inhibitor that targets all four types of PI3 kinase found in human cells. BEZ235 is a PI3 kinase inhibitor that also inhibits the proteins that make up mTOR complexes, known as mTORC1 and mTORC2. Everolimus blocks only the mTORC1 complex, for example, and preclinical data indicate that cancer cells are less able to evade a drug that hits both mTORC1 and mTORC2.

BKM120 and BEZ235 are currently in Phase II trials. "This is the start of a great new era," said Mark C. Fishman, M.D., President of the Novartis Institutes for BioMedical Research and member of the Executive Committee of Novartis. "The PI3 kinase/mTOR pathway is activated abnormally in one-third of all solid tumors. Drugs that hit this pathway have the potential to become the staple of cancer therapy."

PIPELINE PROGRESS

For all the promise of PI3 kinase inhibitors, Novartis Oncology passed major milestones across its broad pipeline during 2011. Results from two pivotal Phase III studies demonstrated the positive effects of ruxolitinib, a drug also known by the research number INC424, in treating patients with myelofibrosis, a blood cancer with limited therapeutic options. Novartis licensed INC424 from Incyte Corp. for development and potential commercialization outside the United States. The European Commission has granted INC424 orphan drug status for treatment of myelofibrosis. Under Europe's orphan drug rules, INC424 would be entitled to an expedited regulatory review and, if approved, a period of market exclusivity.

INC424 inhibits the Janus kinase (JAK1 and JAK2) pathway, which regulates production of blood cells. Abnormal signaling leads to an enlarged spleen and other severe complications. INC424 is also being investigated in clinical trials for treatment of polycythemia vera, a rare blood disorder in which the bone marrow makes too many red blood cells.

LDE225 is a compound that inhibits Smoothened (Smo), a node in the hedgehog pathway. Smo is normally active during fetal development and inactive in adult cells. Abnormal activation of the pathway by mutations in Smo or other key genes is a cause of several kinds of cancer. Mutations in Smo are common in medulloblastoma, the most common malignant brain tumor of children. LDE225 is being tested in treatment of medulloblastoma in both children and adults, with promising early results.

Another targeted anticancer compound discovered in Novartis labs is PKC412, currently at a late stage of Phase III trials for treatment of acute myeloid leukemia in patients who carry a mutated version of the gene encoding FLT3. FLT3 is mutated in approximately one-third of acute myeloid leukemia patients, and PKC412 inhibits another molecular target believed to play important roles in the pathogenesis of the disease. The Phase III study enlisted the efforts of three cooperative trial groups in different parts of the world to bolster the recruitment of patients with this genetic alteration, which is relatively uncommon.

AUY922 is a compound that inhibits heat shock protein 90 (HSP90), a chaperone protein needed to fold proteins into their active shapes. Proteins encoded by mutant cancer genes may be particularly dependent on HSP90 – thus cancer cells driven by those mutations may be susceptible to killing by AUY922. Several genes commonly mutated in lung cancer are among those that may be sensitive to HSP90 inhibitors, and Novartis Oncology has promising early data in this common cancer.

The success of targeted anticancer therapies has reinforced confidence in the new development paradigm, particularly patient preselection and the use of combination therapies even before resistance to treatment has actually been observed. "Patient preselection has become commonplace in the field and thus is more readily accepted by oncologists than specialists in other disease areas," Dr. Weber said. "The state of the science is so far along that we are in a position to be able to really take advantage of that knowledge in a way that isn't possible quite yet in other therapeutic areas."

She added: "Of course the clinical value of that knowledge often is enhanced by having a good drug to test. Oncologists have seen many examples in which preselection has meant the difference between a drug working or not working in trials. What's changing things for cancer patients is getting good drugs – and the right combinations – into the right people at the right time."

PIPELINE

Novartis is consistently rated as having one of the industry's most respected development pipelines, with 134 projects in clinical development. Several of these pharmaceutical projects, which include potential uses of new molecular entities as well as additional indications or new formulations for marketed products, are for potentially best-in-class and first-in-class medicines that would significantly advance treatment standards.

This table provides an overview of selected pharmaceutical projects in confirmatory development.

For a glossary of terms, see page 28.

Project /product	Common name	Mechanism of action
ACZ885	canakinumab	Anti-interleukin-1ß monoclonal antibody
AEB071	sotrastaurin	Protein kinase C inhibitor
AFQ056	mavoglurant	Metabotropic glutamate receptor 5 antagonist
AIN457	secukinumab	Anti-interleukin-17 monoclonal antibody
ATI355	–	Anti NOGO[3]-A mAb
AUY922	–	ATP-competitive non geldanamycin inhibitor of HSP[4]90
BCT197	–	Anti-inflammatory agent
BEZ235	–	PI3K/mTOR[5] inhibitor
BGS649	–	Aromatase inhibitor
BKM120	–	PI3K inhibitor
CAD106	–	Beta-amyloid-protein therapy
DEB025	alisporivir	Cyclophilin inhibitor
Exjade	deferasirox	Iron chelator
Gilenya	fingolimod	Sphingosine-1-phosphate (S1P) receptor modulator
HCD122	–	Anti-CD40 monoclonal antibody
INC424	ruxolitinib	Janus kinase (JAK) inhibitor
LBH589	panobinostat	Histone deacetylase inhibitor
LCI699	–	Aldosterone synthase inhibitor
LCQ908	–	Diacylglycerol acyl transferase-1 inhibitor
LCZ696	–	Angiotensin receptor-neprilysin inhibitor (ARNI)
LDE225	–	Smoothened receptor / hedgehog signaling inhibitor
LFF571	–	Bacterial elongation factor Tu (EFTu) inhibitor
LGT209	–	Lipid modulator

[1] Refers to first planned filing date in a major market (US or EU) for lead indication
[2] Refers to current phase of lead indication only
[3] Neurite outgrowth inhibitor
[4] Heat shock protein
[5] Mammalian target of rapamycin

Potential indication/indications	Therapeutic area	Route of administration	Planned submission dates[1]	Current phase[2]
Gouty arthritis (lead indication), systemic onset juvenile idiopathic arthritis, diabetes mellitus, secondary prevention of cardiovascular events	Integrated Hospital Care, Critical Care	Subcutaneous	Submitted US, EU	Submission
Prevention of organ rejection after transplantation (kidney, liver), psoriasis	Integrated Hospital Care	Oral	≥2016	II
Fragile X syndrome (lead indication), L-dopa induced dyskinesia in Parkinson's disease	Neuroscience	Oral	2013	II
Psoriasis (lead indication), arthritidies – rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, multiple sclerosis	Integrated Hospital Care, Neuroscience	Subcutaneous, intravenous	2013	III
Spinal cord injury	Neuroscience	Intrathecal spinal infusion	≥2016	I
Solid tumors	Oncology	Intravenous	≥2016	II
Chronic obstructive pulmonary disease	Primary Care	Oral	≥2016	II
Solid tumors	Oncology	Oral	2014	II
Obese hypogonadotropic hypogonadism	Critical Care	Oral	≥2016	II
Endometrial cancer	Oncology	Oral	2014	II
Alzheimer's disease	Neuroscience	Subcutaneous, intramuscular	≥2016	II
Chronic hepatitis C	Integrated Hospital Care	Oral	2013	III
Non-transfusion dependent thalassemia	Oncology	Oral	Submitted US, EU	Submission
Chronic inflammatory demyelinating neuropathy	Neuroscience	Oral	2014	II
Hematological tumors	Oncology	Intravenous	≥2016	I
Myelofibrosis (lead indication), polycythemia vera	Oncology	Oral	Submitted US, EU	Submission
Relapsed or relapsed-and-refractory multiple myeloma (lead indication), hematological cancers	Oncology	Oral	2013	III
Solid tumors	Oncology	Oral	≥2016	II
Metabolic diseases	Critical Care	Oral	2014	II
Heart failure (lead indication), hypertension	Critical Care, Primary Care	Oral	2014	III
Basal cell carcinoma	Oncology	Oral	2014	III
Clostridium difficile infection	Integrated Hospital Care	Oral	≥2016	II
Hypercholesterolemia	Critical Care	Subcutaneous	≥2016	II

continued on next page

PIPELINE (CONTINUED)

This table provides an overview of selected pharmaceutical projects in confirmatory development.

For a glossary of terms, see page 28.

Project /product	Common name	Mechanism of action
Lucentis	ranibizumab	Anti-VEGF[6] monoclonal antibody
MEK162	–	MEK[8] inhibitor
NIC002	–	Nicotine Qbeta therapeutic vaccine
NVA237	glycopyrronium bromide	Long-acting muscarinic antagonist
PKC412	midostaurin	Signal transduction inhibitor
QAW039	–	Anti-inflammatory agent
QMF149	indacaterol, mometasone furoate	Long-acting beta-2 agonist and inhaled corticosteroid
QTI571	imatinib mesylate	Protein tyrosine kinase inhibitor
QVA149	indacaterol, glycopyrronium bromide	Long-acting beta-2 agonist and long-acting muscarinic antagonist
RAD001 (*Afinitor*)	everolimus	mTOR[5] inhibitor
RLX030	–	Vascular modulator
SOM230	pasireotide	Somatostatin analogue
Tasigna	nilotinib	Signal transduction inhibitor
TKI258	dovitinib lactate	VEGFR 1-3[11], FGFR 1-3[12], PDGFR[13] and angiogenesis RTK[14] inhibitor
Xolair	omalizumab	Anti-IgE monoclonal antibody
Zortress/Certican	everolimus	mTOR inhibitor

[6] Vascular endothelial growth factor
[7] Choroidal neovascularization (CNV) and macular edema (ME) secondary to conditions other than age-related macular degeneration, diabetic macular edema, retinal vein occlusion and pathologic myopia
[8] Combination of mitogen activated protien kinase (MAP) and extracellular signal-regulated kinase (ERK)
[9] Angiomyolipomas
[10] Transmembrane receptor tyrosine kinase
[11] Vascular endothelial growth factor receptor
[12] Fibroblast growth factor receptor
[13] Platelet-derived growth factor receptor
[14] Receptor tyrosine kinase

Potential indication/indications	Therapeutic area	Route of administration	Planned submission dates[1]	Current phase[2]
Pathological myopia, choroidal neovascularization and macular edema[7]	Ophthalmology	Intravitreal	2012	III
Solid tumors	Oncology	Oral	≥2016	II
Smoking cessation	Primary Care	Subcutaneous	≥2016	II
Chronic obstructive pulmonary disease	Primary Care	Inhalation	Submitted EU, US (TBD)	Submission
Aggressive systemic mastocytosis (lead indication), acute myeloid leukemia	Oncology	Oral	2013	II
Asthma	Primary Care	Oral	≥2016	II
Asthma, chronic obstructive pulmonary disease	Primary Care	Inhalation	2015	II
Pulmonary arterial hypertension	Critical Care	Oral	2012	III
Chronic obstructive pulmonary disease	Primary Care	Inhalation	2012	III
Tuberous sclerosis complex – AML[9] (lead indication), advanced ER+HER2-breast cancer, breast cancer HER2-over-expressing first line, breast HER2-over-expressing second/third line, hepatocellular carcinoma, lymphoma	Oncology	Oral	Submitted US, EU (2012)	Submission
Acute heart failure	Critical Care	Intravenous	2013	III
Cushing's disease (lead indication), acromegaly, carcinoid syndrome	Oncology	Subcutaneous, intramuscular	Submitted EU, US (2012)	Submission
Metastatic melanoma with c-KIT[10] mutation	Oncology	Oral	2014	II
Renal cell cancer, solid tumors	Oncology	Oral	2013	III
Chronic idiopathic urticaria	Critical Care	Subcutaneous	2013	III
Prevention of organ rejection – liver	Integrated Hospital Care	Oral	Submitted US, EU	Submission

PIPELINE GLOSSARY

Confirmatory development
Projects for which a positive proof of concept has been established and are currently in either post proof-of-concept clinical trials (Phase I/II/III) or under review by the regulatory agencies for the purpose of granting marketing authorization (submission).

Project/product
Project refers to the Novartis development project reference code (combination of three letters and three numbers), used for projects in development. Product refers to the brand name for a marketed product.

Common name
Official international non-proprietary name or generic name for an individual molecular entity as designated by the World Health Organization.

Mechanism of action
Specific biochemical interaction with a molecular target such as a receptor or enzyme, through which a drug substance produces its pharmacological effect.

Potential indication/indications
Disease or condition for which a compound or marketed product is in development and is being studied as a potential therapy.

Route of administration
Path by which a medicinal preparation is administered into the body, such as oral, subcutaneous or intravenous.

Phase I
First clinical trials of a new compound, generally performed in a small number of healthy human volunteers, to assess the clinical safety, tolerability, as well as metabolic and pharmacologic properties of the compound.

Phase II
Clinical studies that are performed on patients with the targeted disease, with the aim of continuing Phase I safety assessment in a larger group, assessing the efficacy of the drug in the patient population and determining the appropriate doses for further testing.

Phase III
Large-scale clinical studies with several hundred to several thousand patients, to establish the safety and effectiveness of the drug for regulatory approval for indicated uses. Phase III trials also may be used to compare a new drug against a current standard of care in order to evaluate the overall benefit-risk relationship of the new drug.

Submission
An application for marketing approval has already been filed with one or both of the following regulatory agencies: FDA (United States), EMA (European Union). Novartis has not yet received marketing authorization from both regulatory agencies.[1] The application contains comprehensive data and information gathered during the animal studies and human clinical trials conducted through the various phases of development of the drug.

[1] Filings that have received approval in one of the markets (either US or EU) but are awaiting approval in the other market are included in the preceding table.

NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH

Regenerative medicine is an emerging field focusing on therapies that repair damage caused by disease or aging. In line with a distinctive pathways strategy, the Novartis Institutes for BioMedical Research are racing to discover new medicines or proteins that can make stem cells or other types of progenitor cells perform their proper role and enhance regeneration.

Since 2009 the Novartis Institutes for BioMedical Research (NIBR) have stepped up research programs focusing on regenerative medicine.

Regenerative medicine is a rapidly evolving, interdisciplinary field aiming to develop therapies that repair or replace organs and tissues damaged by disease or aging. In recent years, the field has been revolutionized by breakthroughs in understanding the biology and *ex vivo* cultivation of stem cells, a remarkable category of cells with singular properties. A stem cell is self-renewing – able to divide and generate an exact copy of itself numerous times. Each of these cells retains the potential to differentiate into one of several different cell types under appropriate conditions.

It was originally thought that stem cells occurred only in a few specialized locations in the body such as bone marrow, but in recent years, scientists have identified stem cells in many mature tissues. At least in theory, these "local" stem cells represent a readily available source of replacement cells and tissues. Increasingly sophisticated reprogramming and differentiation techniques are emerging to generate desired but often difficult-to-obtain cell populations.

"During development, stem cells provide the precursors for many cells of an organ. These cells are guided to adopt their proper fate and position within organs by signaling pathways. Our goal is to find medicines that capture these pathways and use intrinsic residual stem cells in the adult to repair tissues damaged by injury or aging," said Mark C. Fishman, M.D., President of NIBR and member of the Executive Committee of Novartis.

This regenerative medicine initiative builds on NIBR's distinctive pathways strategy. Single proteins are the building blocks of life, assembled in a limited number of core signaling pathways that regulate critical cellular functions. These pathways are conserved through evolution in highly reproducible ways. NIBR scientists are racing to decipher these pathways – and their nodes – in great enough detail to provide new and proprietary targets for drugs.

As well as having direct therapeutic potential, stem cells also provide powerful new tools for drug discovery. "We can do experiments today that were not possible as recently as two or three years ago," said Jeffrey Porter, Ph.D., Global Head of the Developmental and Molecular Pathways platform. One example is the recent breakthrough that allows scientists to culture in the laboratory a complete stem cell niche – the specialized, carefully controlled microenvironment in which cells live. "Under the right conditions it is possible to generate what we call organoids – in essence, mini-organs that elaborate the exact structures that you see in human tissue," Mr. Porter said.

"To a scientist, all the action is there – the system is alive, well and firing. We use organoids to ask big questions: What could stimulate pathways and turn up production of stem cells or progenitor cells and make it

possible to rebuild tissue? What would make more differentiated cells and what would stop the system? It allows us to look at regeneration in a very controlled fashion."

Although stem cell technology and pathway analysis have elevated regenerative medicine to a new level, Novartis has been active in regenerative medicine for years – for example, through discovery and development of medicines to treat osteoporosis, a progressive bone-thinning disease. Bone metabolism is a dynamic process in which osteoclasts, a class of specialized cells, remove old bone while osteoblasts rebuild new bone. "Peak bone density is usually attained around 30 years of age, after which the balance gradually changes and we start to break down more than we build up," said Michaela Kneissel, Ph.D., Head of NIBR's Bone Research Group. An effective medicine like *Reclast/Aclasta* slows the activity of osteoclasts to improve the balance between breakdown and growth of bone.

Current research efforts by NIBR to stimulate true regeneration of bone focus on the Wnt pathway – in particular a protein called sclerostin that impedes signaling through the Wnt pathway and inhibits growth of new bone. Genetic analysis has shown that people with mutated versions of the gene encoding sclerostin have particularly heavy and strong skeletons. A compound discovered by NIBR blocks activity of sclerostin to correct the imbalance in bone metabolism and spur regeneration of bone. This sclerostin inhibitor is currently being tested in proof-of-concept studies.

A profound unmet medical need exists for innovative medicines that enhance regeneration in tissues other than bone. Cachexia, the muscle wasting associated with several severe diseases, afflicts millions of people around the world but remains largely untreated. Frailty associated with aging is an increasingly prevalent medical condition driven by loss of muscle, a process termed sarcopenia.

With an aging world population, unmet need can only increase. "After the age of 50, people get weaker due to the loss of certain types of muscle cells – including stem cells – and a variety of muscle proteins seem to diminish over the course of a lifetime," Dr. Fishman observed. "We do not fully understand why muscle loss occurs in aging but we believe blocking the pathway that normally limits muscle growth, in a manner analogous to blocking sclerostin in bone, will be beneficial. We are currently in the clinic with early-stage therapies to block activity of that pathway and hopefully restore muscle lost to aging."

MUSCLE WASTING

Loss of muscle is a serious consequence of many chronic diseases – and aging itself – leading to weakness, loss of independence and increased risk of death. Millions of people around the world are affected by cachexias associated with chronic obstructive pulmonary disease (COPD), cancer, heart failure and HIV/AIDS. Cachexia leads to involuntary loss of more than 5% of body weight and muscle over a period of only a few months. Emerging most often in incurable patients toward the end of life, cancer cachexia limits the intensity of chemotherapy and is one of the most common ultimate causes of mortality in cancer patients.

Treatment for cachexia traditionally has been limited to improvement of diet and exercise. Patients with COPD and other types of organ failure often are intolerant to exercise, and inactivity exacerbates muscle wasting.

Sarcopenia, the age-related loss of skeletal muscle mass and function, occurs progressively in almost everyone over age 50. By contrast to cachexia, sarcopenia is not currently recognized as a disease. Yet the estimated prevalence of sarcopenia-related disability is between 5% and 10% among people over age 60, and management of the condition costs healthcare systems billions of dollars annually. Falls leading to significant or severe injury requiring hospitalization could be reduced by improving muscle mass and function in frail patients. When frailty eventually becomes so significant that it interferes with the ability to live independently, institutionalization in assisted living incurs additional costs and leads to decrease in quality of life.

Over the last decade, research has demonstrated a coordinated set of signaling pathways that can modulate muscle mass. In an article published in the *Annals of the New York Academy of Sciences*, David Glass, M.D., head of NIBR's muscle disease group, and Ronenn Roubenoff, M.D., MHS, head of Musculoskeletal Translational Medicine at NIBR, described how cachexias eventually signal into "conserved pathways that modulate the breakdown of the sarcomere, perturb protein synthesis and block the differentiation of the satellite [stem] cell into a multinucleated [muscle] fiber."

Studies in several animal species have highlighted the role of a signaling pathway induced by a protein called myostatin, which activates a molecular brake on muscle growth. "A breed of cattle known as Belgian Blue are double-muscled, the result of a mutated version of the gene encoding myostatin, suggesting that inhibition of the myostatin pathway could release the brake and stimulate muscle growth," observed Brian Richardson, Ph.D., Global Head of Musculoskeletal Diseases Research.

NIBR researchers have identified antibodies that interfere with this pathway,

and are investigating them in early clinical studies of patients who have muscle weakness of different etiologies.

ACCELERATING RECOVERY

Each year in the United States, more than 80 000 patients receiving chemotherapy or radiation therapy for cancer develop mucositis, a painful inflammation and ulceration of the mucous membranes lining the digestive tract. Mucositis can become so severe that patients are forced to reduce dosage of chemotherapy – or even halt treatment.

NIBR's mucositis program attempts to modulate stem cells to regenerate cells of the mucosa. Chemotherapy works by killing rapidly dividing cells, which includes tumor cells but also the intestine, one of the most regenerative tissues in the body that renews itself roughly every five days.

Healing in mucosa is mediated by epithelial cells that are attracted to the site of the ulcer and begin to cover the wound. Growth factors that attract epithelial cells or enhance differentiation of amplifying progenitor cells could accelerate recovery or even be used preventively to strengthen mucosal tissue prior to chemotherapy.

Discovering the growth factors and other signaling proteins that stimulate self-renewal and differentiation of local stem cells is a prime objective of NIBR's regenerative medicine initiative. The mucositis program is a prototype because the stem cell system of the small intestine is among the best-defined of any body tissue.

NIBR scientists employ organoids as cutting-edge screening systems to test a library comprising thousands of growth factors and secreted proteins. Promising lead compounds have emerged from the screening programs and are in early stages of preclinical testing.

"Mucositis is the clinical indication, but we know nature is conservative, so the pathways involved in organogenesis or homeostasis in the intestine are likely to be central to stem cell function in many tissues," said Tewis Bouwmeester, Ph.D., who heads the Developmental and Molecular Pathways Group in Basel, Switzerland. "For this reason, we believe that what we discover in mucositis has the potential to also be applied to regeneration of other organs."

GENETIC SWITCH

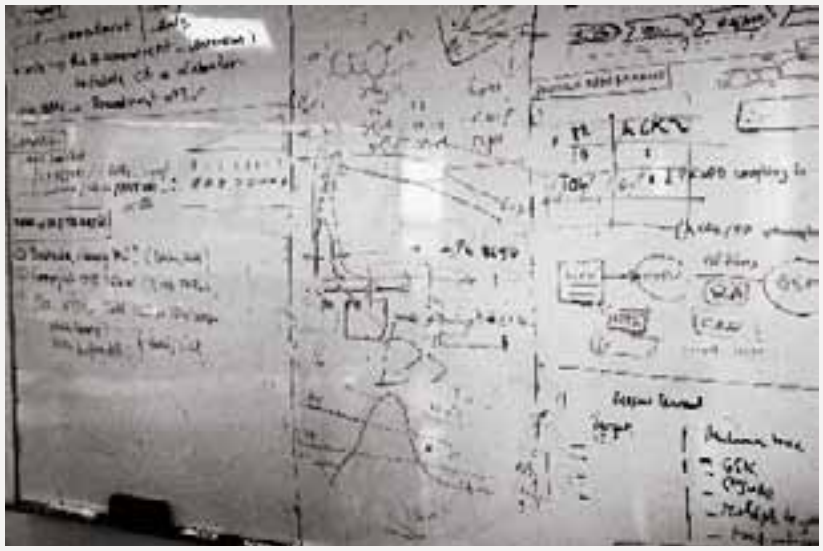
NIBR continues to closely monitor progress in more futuristic applications such as cell therapy and gene therapy through alliances with academic groups and biotechnology firms. With GenVec Inc., a biotech firm based in Gaithersburg, Maryland, NIBR is testing the frontier of gene delivery to restore hearing.

Hearing loss is increasingly afflicting younger individuals as well as the elderly. One in six adults in Europe and the United States suffers from hearing loss great enough to adversely affect daily life, and almost half of adults over age 75 have hearing impairment. The most common cause of hearing loss is degeneration of sensory hair cells in the inner ear, resulting from infections, autoimmune disorders or aging.

Hair cells are responsible for converting sound into electrical signals sent to the brain via the auditory nerve for processing. Loss of hair cells is irreversible but preclinical experiments indicate that a gene known as Atoh1 that triggers differentiation of precursors into hair cells during embryonic development can have the same effect on so-called "supporting" cells in adults – and restore auditory function. "Atoh1 is a key transcriptional regulator that activates the pathways that drive differentiation," said Lloyd Klickstein, M.D., Head Translational Medicine for NIBR's New Indication Discovery Unit. "Supporting cells in the inner ear are precursors one step removed from hair cells. You just need to turn on a switch and in this case the switch is the Atoh1 gene."

In 2010 Novartis acquired rights to GenVec's hearing loss treatment based on Atoh1. It was a bold step: A number of major pharmaceutical companies, including Novartis, had invested heavily in gene therapy programs that failed during the 1990s. "One problem was that earlier gene therapy projects were trying to run before they could walk," Dr. Klickstein acknowledged. "They wanted sustained, high level expression of the new gene, and exposed the entire body of patients to the risk of toxicity from vectors used for gene delivery."

The Atoh1 therapy attempts to avoid many of those pitfalls. The replacement gene is delivered directly into the inner ear, which is sealed off from the blood circulation. Moreover the Atoh1 gene will be delivered through a single injection rather than repeated administrations. Still, delivery of therapeutic genes remains challenging, and drug delivery to the inner ear is unprecedented.



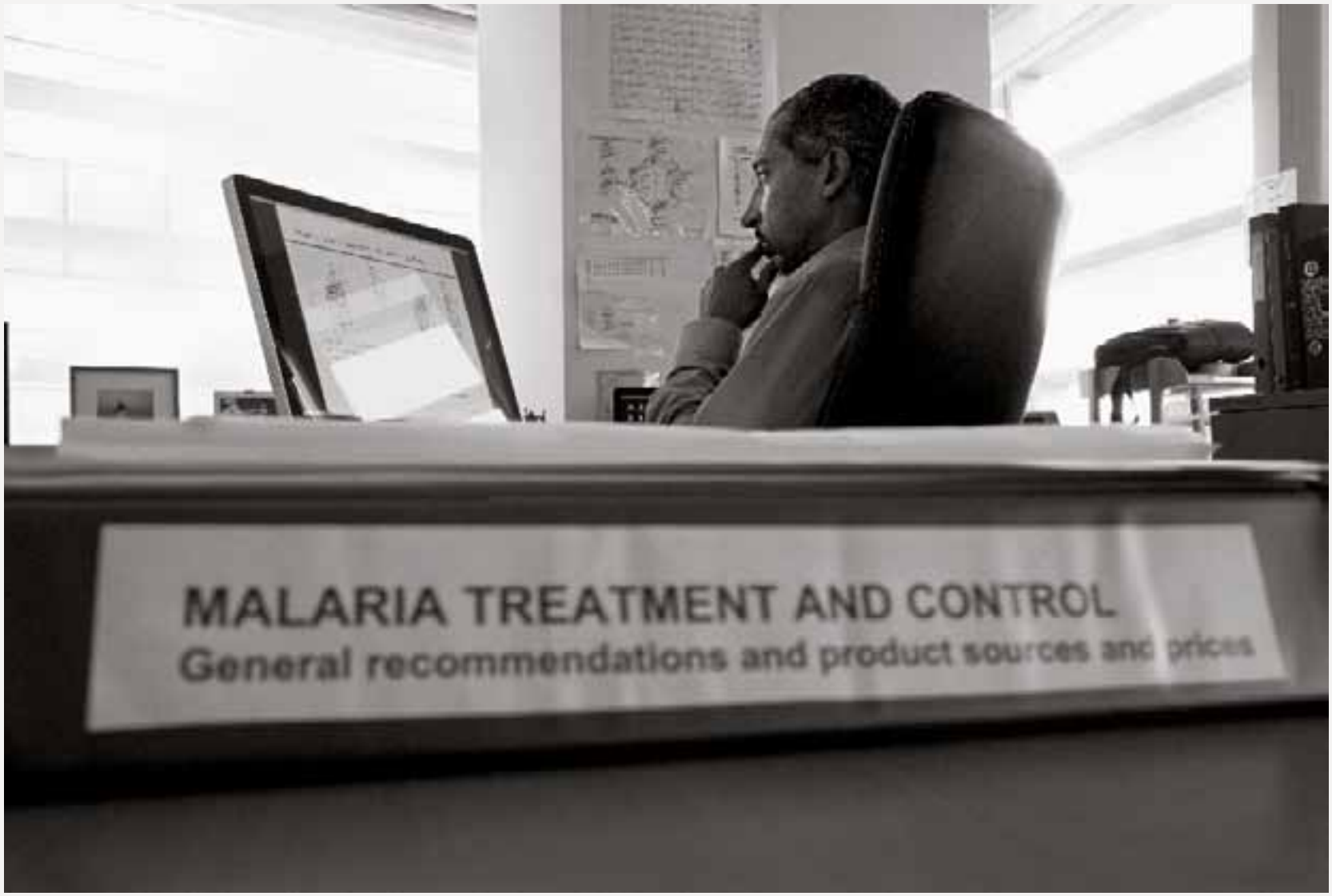
No guarantees

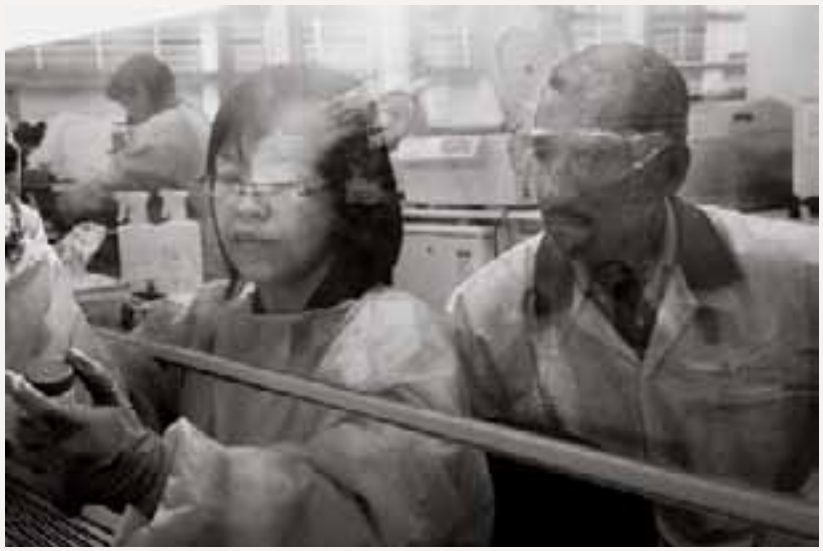
DR. THIERRY DIAGANA: "Why science? In the late 1960s, there was this huge summit in Rome that produced reports on the challenges the world was facing: increasing populations, unchecked disease, the need for producing more food. When I read them, I was in junior high school. My teacher basically said that science was a place to solve some of these problems, so after that, I thought of science as maybe my calling. In high school, I took more classes in physics and chemistry and biology, then went on to major in biochemistry as an undergrad, before taking on a Ph.D. in molecular genetics. At the end of my postdoc, I was preparing to have my own small lab, get a grant, become an associate professor. So yes, academic research was something I could have done, but I wanted to do something that was concretely applicable to people.

"I was born in France, but my relatives are from West Africa and they live with malaria all the time, see it all the time, talk about it all the time. It's just part of their lives, essentially a disease of poverty. The critical period for malaria is from zero to five years old, when your immune system is not robust enough to protect you against the parasite. And if you develop the severe form of the disease, you have 24 hours to get treated. Then the mortality rate shoots up, kids go into a coma. And it's mostly kids, because the older people have seen it six, seven, 20 times, and have developed some sort of tolerance. There's always a debate, but the official statistic is that 800 000 people die from malaria each year. Ninety percent of these people live in sub-Saharan Africa and most are young kids, so my interest in the disease is not an abstract thing.

"Now, many years later, what I'm doing at Novartis Institute for Tropical Diseases is struggling to translate our hypotheses into medicines, in the fight against what we call neglected diseases. Here we have programs for tuberculosis and dengue, although malaria is a big chunk of what we're trying to do. Drug discovery is really a place where you are absolutely 100% dependent on multidisciplinary approaches. Biology, chemistry, pharmacology alone cannot solve the problems. As the head of the drug discovery unit, my role is to help scientists on the team from all different disciplines to design experiments, gather data, interpret the results and help guide decisions on what to do next. There is a sense of urgency here, so those moments when you have to redo the experiments can be disappointing. But I try to detach myself emotionally from these things, because I can only control what I can control. What we're up against is the hard reality of science and biology. Sometimes we think we're right, but the parasite proves us wrong.

"Now the public only hears about medicines that work. They are probably thinking: What's so hard about this? You get some money, do the research, and there it is, something that saves lives. Why can't you do that again and again? I mean, we probably make tens of thousands of molecules to get one that works. Drug discovery is not like producing the next model of a smartphone, where you put a lot of intelligent people in a room, put a timeline on it, and in two years have the product. Launching a medicine has nothing in common with this. It's a trial-and-error process. You have tremendous minds at work and tremendous technological resources, but there are no guarantees."


MALARIA TREATMENT AND CONTROL
General recommendations and product sources and prices



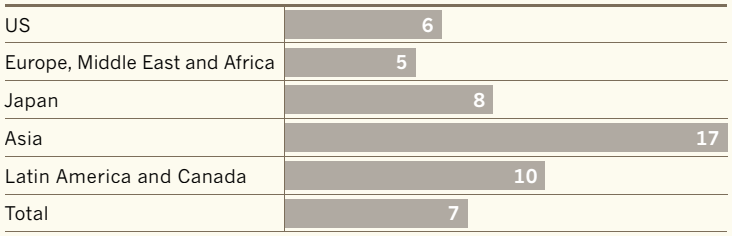
ALCON OVERVIEW

KEY FIGURES
(in USD millions, unless indicated otherwise)

	2011	2010[1]
Net sales	**9 958**	9 031
Operating income	**1 472**	1 181
Return on net sales (%)	**14.8**	13.1
Core operating income[2]	**3 492**	3 095
Core return on net sales (%)	**35.1**	34.3
Core Research & Development[2]	**869**	826
As a % of net sales	**8.7**	9.1
Free cash flow[3]	**3 498**	1 191
Net operating assets[3]	**43 792**	46 253
Additions to property, plant & equipment[3; 4]	**354**	193
Number of associates (FTE)[3; 5]	**22 987**	22 108

[1] 2010 on a full year pro forma basis as explained in detail on page 184, except where otherwise indicated.
[2] Core operating income eliminates the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.
[3] 2010 on a restated basis as explained in detail on page 159.
[4] Excluding impact of business combinations
[5] Full-time equivalent positions at year end

NET SALES GROWTH BY REGION[1]
(in %)



[1] 2011 % net sales growth in constant currencies based on full-year 2010 pro forma figures

NEWS IN 2011

Integration of Alcon, CIBA Vision and certain ophthalmics products from Novartis Pharmaceuticals creates one global leader in eye care. Now the second-largest business in the Novartis portfolio, Alcon offers an extensive breadth of products serving the full life cycle of patient needs across eye diseases, vision conditions and refractive errors.

Net sales of USD 10.0 billion rise 10% (+7% in constant currencies, or cc) on a pro forma basis, underpinned by strong growthin our ophthalmic pharmaceuticals franchise (+10% cc) and surgical franchise (+8% cc). Sales in our top six emerging markets increase 26% (+22% cc), led by China and India. The division also delivers strong operating leverage through realization of post-integration synergies (USD 75 million).

Operating income of USD 1.5 billion rises 24% (+14% cc) on a pro forma basis, while core operating income of USD 3.5 billion increases by 13% (+9% cc) on a pro forma basis. Core operating income margin improves from 34.3% to 35.1% of net sales.

The surgical portfolio is supported by uptake of advanced technology intraocular lenses, growth in emerging markets particularly with increased adoption of the phacoemulsification procedure for cataract surgery, as well as the global launch of the femtosecond cataract refractive laser. The surgical business strongly benefits from growth in the vitreoretinal and refractive categories, based on introduction of new industry-leading technology.

The ophthalmic pharmaceuticals product category shows consistent growth despite generic entrants in the prostaglandin segment in glaucoma in selected markets, including the US. Key drivers of strong performance include combination glaucoma products *DuoTrav* and *Azarga*, and launch of new formulations of *Travatan* and *DuoTrav* solutions. In addition, allergy, anti-infective, anti-inflammatory and dry eye products perform well.

Through integration of CIBA Vision, the Alcon vision care business now has the broadest portfolio across contact lenses and lens care products. The *Air Optix* family of monthly contact lenses is a strong growth driver for the year. EU approval of *Dailies Total 1*, the first water gradient silicone hydrogel daily disposable contact lens, adds breakthrough innovation based on improved comfort.

ALCON

In 2011 Novartis completed the acquisition of Alcon, Inc. Alcon now offers the widest spectrum of eye care products in surgical, ophthalmic pharmaceuticals and vision care on the market, presenting opportunities to accelerate growth and address urgent, unmet patient needs even more effectively than in the past.

When the top 150 executives of the Alcon Division assembled in Frisco, Texas, for their first global leadership conference, the theme – "Going Beyond Number One" – crystallized their aspiration for the new division.

On April 8, 2011, Novartis completed the acquisition of Alcon, Inc. – the global leader in eye care. The new Alcon Division includes assets transferred from Novartis to reinforce its leadership in the eye care industry. A portfolio of ophthalmic medicines from Novartis augmented Alcon's existing pharmaceutical product range. In addition, the contact lens and lens care operations of CIBA Vision were combined with Alcon's portfolio of contact lens solutions to create a stronger Vision Care business. With the merger, Alcon now offers the widest spectrum of eye care products in surgical, ophthalmic pharmaceuticals and vision care on the market, and addresses the broadest range of customer and patient needs.

In his keynote speech at the leadership conference, Alcon Division Head Kevin Buehler emphasized opportunities to accelerate growth and address urgent, unmet patient needs even more effectively than in the past. "Several hundred million people around the world live with blindness or serious vision impairment," Mr. Buehler observed, "but 80% of all visual impairment can be prevented, treated or cured." Globally, uncorrected refractive errors are the main cause of visual impairment and cataracts remain the leading cause of blindness. About 90% of the world's visually impaired live in developing countries, according to the World Health Organization. The burden of eye disorders is expected to grow as people live longer. By 2020, the Institute of Eye Research estimates 2.5 billion people worldwide will be affected by myopia (nearsightedness) and 60 million people are expected to have open-angle glaucoma, the second-leading cause of blindness after cataracts.

"These numbers are staggering, and as an industry we have just started to address these clinical needs. As the leader in eye care, Alcon must strive for breakthrough innovations that bring relief to millions of patients," Mr. Buehler added. "There is potential to accelerate growth and access to treatment in each of our businesses and in every region of the world. We have a unique opportunity to build a division where 1 plus 1 translates into a number much bigger than 2."

Alcon began to deliver on that promise during 2011. Pro forma net sales climbed 7%, measured in constant currencies, and core operating income, 9%. Net sales in the division's six major emerging markets surged 26% (22% in constant currencies) and now represent 10% of overall net sales. Alcon's advanced technology intraocular lenses to treat cataracts posted double-digit growth. Glaucoma medicines also posted significant growth and the *Air Optix* range of contact lenses became Alcon's fastest-growing brand worldwide.

The Alcon Division realized post-integration synergies of USD 75 million in 2011, in line with the target of annual cost savings of USD 350 million by 2013. In addition to merger-related savings, Mr. Buehler held out prospects for further cost reductions in areas such as procurement. "Productivity has not been a core strength at Alcon," he acknowledged. "It is something that we hope to learn from Novartis. We

obviously can benefit from procurement efficiency and also leveraging our manufacturing footprint."

Joseph Jimenez, Chief Executive Officer and member of the Executive Committee of Novartis, reiterated that the Alcon acquisition is primarily about long-term growth, not cost synergies. "In eye care, just as with other Novartis segments, innovation is the key driver of success. The aging population and areas of significant unmet medical need make it likely that eye care will remain an industry with strong growth well into the future," Mr. Jimenez said. "The Alcon Division adds another growth platform to Novartis, and we expect that, because of the complementary nature of Alcon and Novartis, the companies will grow faster together than they would have otherwise."

"WE FOCUS ON THE EYE..."

Ophthalmology is a USD 30 billion-a-year industry growing about 5% per year. Alcon comprises three businesses – Surgical, Ophthalmic Pharmaceuticals and Vision Care – covering the full life cycle of patient needs across eye diseases, vision conditions and refractive errors, with the exception of eyeglasses. Alcon ranks number one or number two globally in sales across all three of its businesses. Strategic focus has been critical for the company's success. "It is important to understand that we do one thing: We do the eye, and we do it well, enhancing quality of life by improving vision," Mr. Buehler said.

Alcon has the largest sales force in the eye care industry, with more than 5 000 sales representatives worldwide. "We are going to lead – and lead with a commanding share of voice – in any channel that uses eye care products," Mr. Buehler said.

As part of Novartis, Alcon's research capability will be further enhanced. With nearly 2 000 associates working to address the world's most pressing eye care needs, the Alcon Division plans to invest more than USD 5 billion in research and development (R&D) over the next five years – the largest announced corporate commitment in the eye care industry.

Alcon has R&D capabilities in both medical devices and pharmaceuticals. The new Alcon Division will have the benefit of working closely with the Novartis Institutes for BioMedical Research (NIBR). As scientists from NIBR and Alcon R&D joined forces during the integration process, they discovered how complementary their capabilities were. More than 20 joint teams have been formed, including projects in which compounds from NIBR are being evaluated in preclinical models developed by Alcon. Alcon scientists have gained access to a range of technologies, from biologics to structural biology and high throughput screening, that previously were only available through external partners. Glaucoma and macular degeneration will be priority areas for drug discovery efforts.

Mr. Buehler also expects Novartis to help improve market access and reimbursement for Alcon products, especially in Europe, Japan and emerging markets. One example is advanced technology intraocular lenses that are implanted during surgery to correct cataracts, or clouding of the eye's lens as a result of aging or injury. In addition to correcting cataracts, Alcon's range of *AcrySof* intraocular lenses correct other vision disorders such as presbyopia and astigmatism at the same time, enabling a patient to see without glasses.

For elderly patients in the United States, the government pays the cost of the basic cataract procedure but patients can choose an advanced lens to address those additional vision needs and pay the difference out-of-pocket. As a result, penetration of advanced technology intraocular lenses has reached low-to-mid teens in the United States but

remains significantly lower in Europe and Japan. "We believe we can leverage the capability of Novartis to talk with regulators and governments in Europe and Japan to gain broader market access for these advanced technology lenses," Mr. Buehler said.

PREVENTING BLINDNESS

Alcon offers equipment, instruments, disposable products and intraocular lenses for surgical procedures that address cataracts, vitreoretinal conditions, glaucoma and refractive errors. Cataract surgery is the cornerstone of Alcon's Surgical business. The only known treatment for cataracts is surgical removal of the natural lens which, if combined with implantation of a replacement intraocular lens, can restore vision.

"As people age, cataracts become increasingly common. We have the ability to address this form of preventable blindness, thanks to highly effective surgical procedures," Mr. Buehler said. "Still, an estimated 18 million people around the world go blind as a result of untreated cataracts. There is a big opportunity to build sustainable infrastructure, particularly in emerging markets, such as India, China and Russia."

Alcon has been the driving force in the worldwide adoption of phacoemulsification systems, a technology that uses ultrasound energy to break up and remove the defective lens. Together with the development of foldable intraocular lenses, phacoemulsification has transformed cataract surgery through smaller surgical incisions, faster recovery times and improved patient outcomes.

Phacoemulsification surgical systems are spearheading Alcon's rapid growth in emerging markets. To achieve sustainable eye care through the broad adoption of state-of-the-art cataract procedures, Alcon offers extensive training programs with local hospitals and professional associations that provide hands-on training in surgical techniques and equipment.

During 2011 Alcon introduced the *LenSx* Laser that delivers the accuracy of a femtosecond laser to refractive cataract surgery. The *LenSx* Laser is designed to predictably perform many of the most challenging aspects of traditional cataract surgery with highly reproducible computer precision.

Alcon's portfolio of pharmaceuticals is used to treat chronic and acute diseases of the eye, from glaucoma and allergies to anti-infective, anti-inflammatory disorders and dry eye. The Ophthalmic Pharmaceuticals business also oversees the line of professionally driven over-the-counter brands in artificial tears and ocular vitamins.

Glaucoma is a disorder that results in optic nerve damage due to elevated intraocular pressure. "While glaucoma is the second-leading cause of blindness today, we have simply started to scratch the surface in addressing this disease," said Sabri Markabi, M.D., Senior Vice President for Research and Development for the Alcon Division.

Alcon's portfolio of glaucoma treatments, including *Travatan Z* solution, helps lower elevated intraocular pressure associated with open-angle glaucoma or ocular hypertension. The *DuoTrav* BAK-free solution, Alcon's latest innovation, was developed in response to customer preference for the convenient combination of medicines. These eye drops have the additional benefit of being free from the preservative BAK that can cause some irritation of the surface of the eye following chronic use.

NEW ERA IN CONTACT LENSES

The *Air Optix* range of monthly silicone hydrogel lenses continued its dynamic growth of recent years, posting a double-digit increase in net sales during 2011. The success of the *Air Optix* contact lens portfolio underscores the high value consumers place on the high comfort of silicone hydrogel, a material developed by CIBA Vision that allows more oxygen to pass through the lens for better eye health.

In late 2011, the Vision Care business launched a new generation of daily disposable silicone hydrogel lenses in several European markets. Alcon's *Dailies Total 1* lens represents a new era in contact lenses – the first water gradient silicone hydrogel daily disposable lens. This innovative contact lens has the highest surface lubricity and the highest oxygen transmissibility of any leading daily disposable contact lens, delivering exceptional comfort.

The development of *Dailies Total 1* lenses is based on breakthrough innovation in terms of production technology as well as lens design. "We believe that the Vision Care team has managed to create a truly new type of silicone hydrogel lens where the composition is so close to the physiology of the eye's tear film that it should provide unprecedented comfort," Dr. Markabi said.

Near-perfect vision

I was operated on first for the right eye. After the bandage was taken off, I looked out the window and saw such a nice green tree. Then I noticed that the doctor was so young. As for my husband, the two of us have been together from 1964, so the way he looks doesn't any longer make any difference to me. – Aliadna Lyashko, age 76

DR. ALEXANDER IGOREVICH SAMOYLENKO: "My parents, grandparents, great-grandparents – all doctors. Brothers, sisters, my wife; it's a family of doctors. There's no escaping. Originally inspired by the work of Svyatoslav Fyodorov, our outstanding and famous eye surgeon, I've worked at the Moscow Ophthalmic Clinical Hospital since 1996. The hospital is 180 years old, one of the very first eye centers in the world.

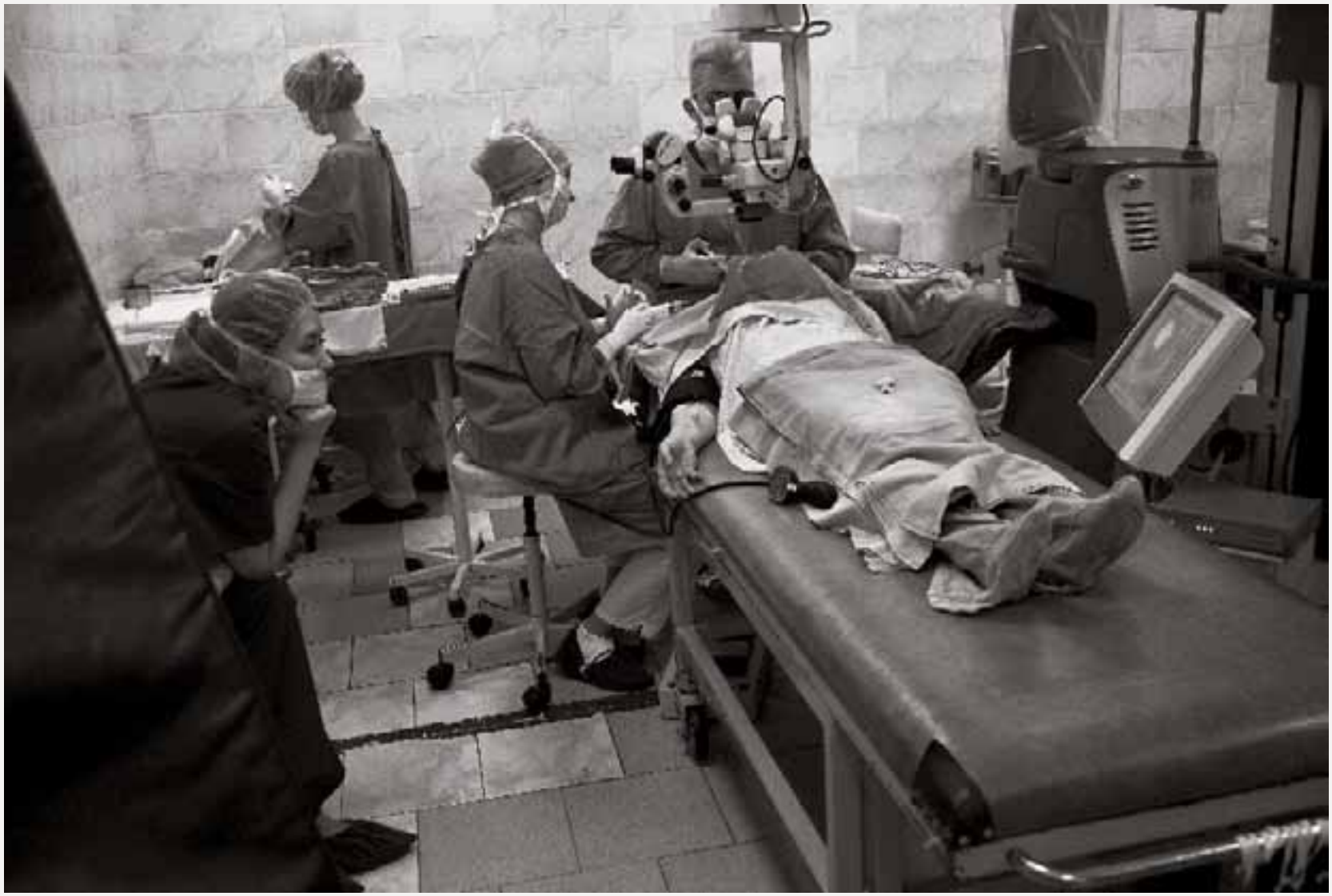
"Surgery for cararacts was almost certainly begun in ancient Egypt. Today, it's the eye operation most in demand. For the 25 surgeons who work here, 60 to 70% of the procedures are for cataracts, 30 to 40% for other problems, like glaucoma or detached retinas. Whereas once people had surgery just to regain their eyesight, they are now operated on to allow them not to wear glasses. They are operated on for myopia, presbyopia, hyperopia.

"Twenty years ago the patients with cataracts who came here were older than 65 and nearly completely blind. They were afraid of having surgery, or delayed coming in for financial reasons. This is a public hospital, so even now the people who come here are seldom rich. Though it should be noted that those coming in now are doing so earlier, even at age 40 or 45. Perhaps the stresses of modern life are a contributing factor or perhaps better diagnostic practices are revealing the problem earlier. No one is exactly sure why, but cataracts are getting younger.

"The basic cataract operation involves the surgical removal of the natural lens of the eye, after the lens has become opaque or cloudy. When we begin, the patient is covered by a sterile cover; only one eye shows. There is an anesthesiologist, just in case any additional help is needed, though normally the surgeon does local anesthesia. Then once the eye is anesthetized, I make micro-cuts, since a smaller cut reduces the later consequences, like infection or astigmatism. After separating the lens with the knife, the phacoemulsification process is next. Ultrasound destroys the unwanted lens, chopping it into fragments, so they become fluid and can be vacuumed out or aspirated. The new lens is then implanted.

"The total operation usually takes 10, 15 minutes at most. There is, of course, the potential for problems, but they're rare. The outcome is highly predictable, most always perfect if you follow the prescribed techniques closely. Now I have to admit that after all the years I've been doing this work, the procedure has become sort of routine for me. While the patient feels this is a miracle – being blind one day, having nearly perfect vision the next – this is something I do again and again throughout a day. During those very first cataract operations many years ago, I would have been emotionally involved. But, the mind is selective. What I tend to remember are problem patients. It's easy to forget what's most important.

"Now what do people who once couldn't see, see after the surgery? It depends often upon their gender and on their age. Men are happy because they can drive again, or hunt. Women can be unhappy when they see themselves clearly in the mirror."



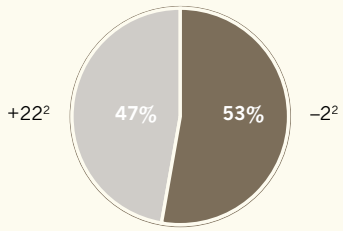
SANDOZ OVERVIEW

KEY FIGURES
(in USD millions, unless indicated otherwise)

	2011	2010[1]
Net sales	**9 473**	8 592
Operating income	**1 422**	1 321
Return on net sales (%)	**15.0**	15.4
Core operating income[2]	**1 921**	1 742
Core return on net sales (%)	**20.3**	20.3
Core Research & Development[2]	**724**	618
As a % of net sales	**7.6**	7.2
Free cash flow	**1 587**	2 141
Net operating assets	**15 223**	15 576
Additions to property, plant & equipment[3]	**335**	307
Number of associates (FTE)[4]	**24 377**	23 536

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159.
[2] Core operating income eliminates the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.
[3] Excluding impact of business combinations
[4] Full-time equivalent positions at year end

2011 NET SALES [1] – DIFFERENTIATED VS. COMMODITIZED GENERICS
(in %)



Differentiated Products[3] Commoditized Products

[1] Net sales percentage based on retail generics and biosimilar sales
[2] 2011 Sandoz third party net sales growth in constant currencies versus 2010
[3] Differentiated products refer to products requiring specialized knowledge and expertise in development, production and/or commercialization, characterized by the active ingredient, formulation/delivery mechanism and/or underlying technology. Examples include complex oral solids, transdermal patches, implants, ophthalmics, inhalables, injectables and biosimilars

NEWS IN 2011

Growth continues over previous year as our portfolio of differentiated medicines expands, despite pricing pressures in several key markets.

Net sales are up 10% (+7% in constant currencies, or cc) to USD 9.5 billion, driven by significant growth in US retail generics and biosimilars (+22% cc), with more than USD 1 billion in enoxaparin sales, making it our first generic "blockbuster." Strong performances in Western Europe, Central and Eastern Europe, Canada, Latin America and Asia also contribute to growth, as do differentiated products, which now account for 47% of Sandoz global sales.

Operating income grows 8% (+10% cc) over the prior year to USD 1.4 billion. Core operating income rises 10% (+11% cc) to USD 1.9 billion, with declining prices more than offset by additional sales volume, new product launches and productivity improvements in all areas.

Constant currency core operating income margin increases by 0.8 percentage points to 21.2%. Currency has a negative impact, resulting in a 20.3% core operating income margin.

Sandoz captures the number one position globally in generic injectable medicines in mid-2011 based on IMS figures, with growth driven by both enoxaparin and oncology injectables. Sandoz confirms its position as leader in biosimilars, with sales reaching USD 261 million in 2011 (+37% cc). Strong progress on biosimilar pipeline, including the start of a Phase II trial in rheumatoid arthritis patients for Sandoz biosimilar monoclonal antibody rituximab (generic Rituxan®/MabThera®) and a complementary Phase III trial for rituximab in patients suffering from follicular lymphoma, a blood cancer that affects the lymphatic system.

SANDOZ

Enoxaparin is part of a broad portfolio of rapidly growing differentiated medicines at the Sandoz Division. The differentiated portfolio includes pioneering biosimiliars, follow-on versions of biologic medicines that have lost patent protection. Sandoz continues to break new ground in making biosimilars available for patients in markets around the world.

In 2011 Sandoz enoxaparin became one of the generic industry's first "blockbusters" – exceeding sales of USD 1 billion during its first 12 months on the market.

That achievement highlights the vast commercial potential of differentiated generics. These products, with challenging active ingredients or specialized formulations, are more difficult to develop, manufacture and market than commoditized generics but offer greater growth potential and profitability. Enoxaparin may be the biggest success story to date but it is part of a broad portfolio of differentiated medicines at the Sandoz Division.

Burgeoning demand for that differentiated portfolio has fueled robust growth at Sandoz during the past two years and accounted for 47% of the division's sales in 2011, up from 30% of sales in 2008.

The focus on differentiated products is epitomized by biosimilars, follow-on versions of existing biotechnology medicines that have lost patent protection. Sandoz pioneered the field, winning regulatory approval for the first biosimilar medicines in Europe, the United States, Japan, Canada, Australia and Taiwan between 2006 and 2009. Sandoz remained the world leader during 2011, accounting for roughly half of worldwide biosimilar sales in regulated markets and exceeding the combined market segment share of its two closest rivals.

Regulatory prowess is an important competitive edge for Sandoz because differentiated products often must surmount formidable hurdles. Sandoz enoxaparin was approved by the US Food and Drug Administration (FDA) in July 2010 following a marathon five-year regulatory review. The approval set important precedents for generic versions of large complex molecules that reside on the border of traditional drugs and biologics.

Sandoz, and its collaborator Momenta Pharmaceuticals Inc., invested heavily in development of state-of-the art analytical methods and complex mathematical modeling to show convincingly the "sameness," or equivalence, of the Sandoz enoxaparin and the originator product Lovenox®, a low molecular weight heparin developed and marketed by Sanofi SA. Interestingly, the FDA's review of Sandoz enoxaparin revealed an approach that appears to hold precedential value for the development of biosimilars as well.

Writing in the *New England Journal of Medicine* (NEJM) in August 2011, four FDA officials, including Janet Woodcock, M.D., director of the agency's Center for Drug Evaluation and Research, cited the approval of enoxaparin as an example of "fingerprint"-like characterization that "will be essential in designing a US biosimilars policy." The United States has lagged Europe and other regions in establishing a regulatory pathway for biosimilars, but a legislative breakthrough came in 2010 when the landmark Biologics Price and Competition Act authorized the FDA to oversee an abbreviated pathway for approval of biologics that are "biosimilar" to already-approved products.

In their NEJM article, the FDA officials declared an abbreviated pathway "will eliminate unnecessary (and therefore unethical) testing of biosimilars in animals and humans." The authors also acknowledged

the FDA "is carefully scrutinizing lessons from the European Medicines Agency," which published general guidelines on biosimilars in 2005 and approved its first biosimilar in 2006.

Ironically, the United States has the world's most dynamic market for conventional generic medicines. The use of generic prescription drugs in place of patented counterparts has saved the US healthcare system more than USD 1 trillion from 2000 through 2010. At a time when biologics represent a steadily increasing share of global drug sales, the US Federal Trade Commission predicts that availability of biosimilars will significantly reduce biologics' cost and increase their accessibility.

Gains in access are already apparent in Europe. One example is granulocyte colony-stimulating factor, or G-CSF, a protein that stimulates bone marrow to increase production of white blood cells. Filgrastim, the recombinant form of G-CSF, is used as supportive therapy to offset the effects of aggressive chemotherapy, which can deplete white blood cells and leave patients vulnerable to infections.

Treatment guidelines suggest filgrastim be used preventively at the same time that patients start chemotherapy to avoid infections, but in the United Kingdom use of the medicine was often relegated to second-line therapy – because of cost – to patients who had already developed infections. The number of patients receiving filgrastim was declining until Sandoz and other manufacturers introduced biosimilar filgrastim at a price roughly 50% below the originator product – Amgen Inc.'s Neupogen®. Access to an affordable biosimilar allowed physicians to treat patients preventively as recommended, moving the product back to first-line therapy and rejuvenating the market. Although more patients are receiving treatment today, expenditure on filgrastim has declined.

"Lower prices give physicians more freedom to treat patients in the way they consider appropriate," said Jeff George, Division Head, Sandoz, and member of the Executive Committee of Novartis. "We're seeing this happen in Europe now, but I expect to see the same effect from the introduction of biosimilars in the United States and the rest of the world in years to come."

COMPLEX COMMERCIAL MODEL

Since the 2006 launch of *Omnitrope*, a biosimilar human growth hormone, Sandoz has expanded biosimilar operations to more than 40 countries. "We have refined our commercial model for biosimilars – it is not just about price," said Ameet Mallik, Global Head of the Sandoz Biopharmaceuticals and Oncology Injectables business. *Omnitrope* has gained more than 10% of the US market segment for human growth hormone despite entrenched competition from six rival companies.

When physicians in the United States write a prescription for human growth hormone, they expect the manufacturer to provide a comprehensive package of patient-support services ranging from help in processing reimbursement applications to education that includes training patients in use of the injection device. "It is only when all these elements are in place – including a very good device – that payors can really improve patient access and still capture savings in the healthcare systems," Mr. Mallik added.

In Europe *Zarzio*, the biosimilar filgrastim from Sandoz, and *Binocrit*, a biosimilar epoetin alfa used to regulate formation of red blood cells, are used more by hospitals and dialysis clinics, which adopt biosimilars more readily than primary care physicians. "You need a good key account manager to call on hospitals, as well as a field force to educate physicians about the products," Mr. Mallik said.

The next generation of biosimilars currently in development is expected to include monoclonal antibodies, the largest and fastest growing segment of biologics. Products with projected annual sales of USD 63 billion will lose patent protection by 2016. But that off-patent slice of biologics will surge to an estimated USD 100 billion by 2020 as patents on monoclonal antibody-based therapies begin to expire. "By 2016 biologic products are expected to represent seven of the 10 top-selling drugs worldwide – each with annual sales exceeding USD 5 billion," Mr. Mallik said. "Their patents will expire within the next decade and you can imagine that our biosimilar pipeline includes many of these originator products."

ABBREVIATED CLINICAL TRIALS

The Sandoz biosimilar pipeline currently comprises up to 10 projects including the division's first monoclonal antibody, a biosimilar version of Rituxan®/Mabthera®, a blockbuster medicine known by the common name rituximab, developed and marketed by Roche Holding AG. The Sandoz biosimilar rituximab is in pivotal Phase III clinical trials for treatment of follicular lymphoma, a slow-growing cancer of the immune system. In a parallel clinical program, the Sandoz rituximab is in Phase II trials for treatment of rheumatoid arthritis.

Regulatory review of a biosimilar in Europe proceeds through two distinct phases. The first involves a detailed analytical characterization of the biosimilar in relation to the originator reference product. Based on the results of that initial analytical characterization, regulators then fix the program of clinical trials required for approval. "The closer your product is to the originator in the analytical characterization, the more abbreviated the subsequent clinical trial program can be," explained Mark McCamish, M.D., Ph.D., Global Head of Development for Sandoz Biopharmaceuticals.

The biosimilar rituximab program draws on valuable experience Sandoz has gained through approval of three biosimilar medicines. Unique to all biologics, including biosimilars, is batch-to-batch variability that is inherent in the manufacturing process. Sandoz has taken advantage of this variability by establishing "goalposts," or boundaries of acceptable variability for the originator biologic, and applying these goalposts to the development of biosimilar products.

Because scant data are available about the precise degree of variability regulators tolerate, Sandoz researchers analyzed multiple batches of three major recombinant therapeutic proteins that were commercially available from 2007 to 2010. These originator medicines were Aranesp®, Enbrel® and Rituxan®, and the analysis pinpointed examples of variability even though the products remained on the market with unchanged product labels.

Publishing the data in the scientific journal *Nature Biotechnology*, the Sandoz researchers observed: "Current analytical methods allow the detection of even small changes in quality attributes and can therefore enable sensitive monitoring of variability of the manufacturing process." The studies, they added, "reveal substantial alterations of the glycosylation profile for all tested products...most probably caused by changes in the manufacturing processes."

"Biosimilars are not called bioidentical or biogeneric due to this inherent variability compared with the originator," Dr. McCamish said. "But that is nothing new; even originators can't make exact copies of their products. Regulatory agencies accept a degree of variability between batches. Advanced analytical tools enabled Sandoz to document this variability over the production life of the originator biologic and demonstrate that our biosimilar has product attributes that are within the variability of the originator. Due to the variability we find in the originator, in effect, originator companies are making biosimilar versions of their original products."

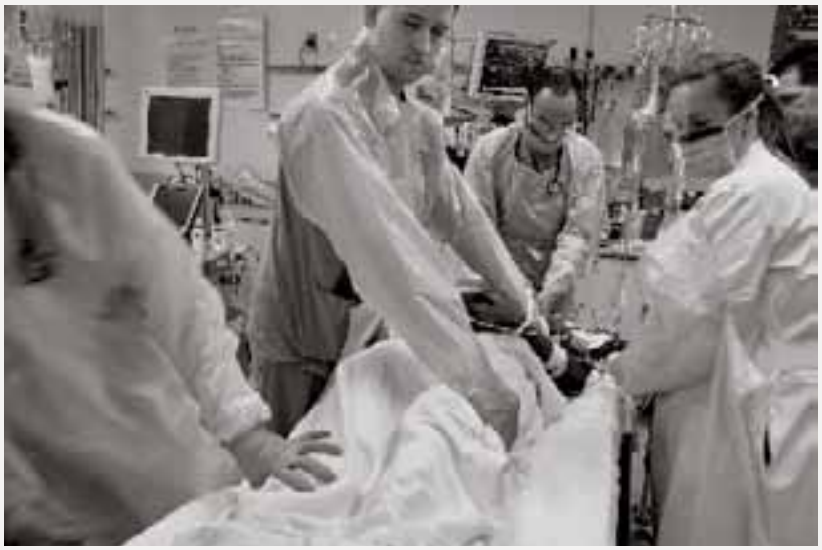
The analysis of rituximab was particularly valuable to clarify the variability resulting from changes in manufacture of the originator product over the years – and to ensure that variability of the Sandoz biosimilar rituximab remains within the boundaries accepted by regulatory agencies. "The study exemplifies the sensitivity of our analytical technology," Dr. McCamish said.

EXTRAPOLATION OF DATA

The European Medical Agency's review of *Zarzio* underscores how analytical characterization can accelerate registration of a biosimilar product. Based on the initial analytical characterization, the agency endorsed an abbreviated clinical trial program and subsequently approved four separate indications for *Zarzio* based on extrapolation of data generated in a single open-label study. "Although rituximab is more complex than *Zarzio*, by showing comparability with the originator, we believe our biosimilar rituximab can follow an appropriately abbreviated clinical development path," Dr. McCamish added.

Meanwhile, Sandoz is joining forces with other Novartis units to fine-tune design and recruitment for clinical studies of rituximab and other biosimilar projects. For example, Sandoz and Novartis Oncology have established a joint project team to manage development of monoclonal antibodies for oncology indications, including rituximab in follicular lymphoma.

"Novartis Oncology excels in clinical development including recruitment of patients, while Sandoz is particularly strong on technical development, intellectual property issues and the regulatory side," Mr. Mallik said. "We're combining the best assets of both to do something that will be good for patients and payors."



Just the beginning

DR. OMAR BHOLAT: "You've got three minutes…GO! Usually you take some time; still, this needs to be done right the first time. Needs to be done fast, or they die. And this is just opening them up, is just the beginning, doing your initial assessment. I still have to open the pericardium, lift the heart, cross-clamp the aorta, do open-heart massage, and fix whatever needs to be fixed.

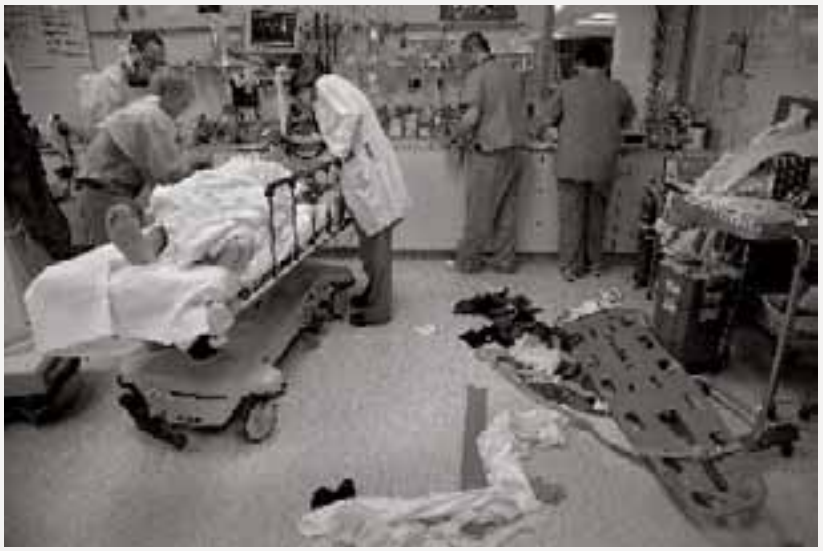
"Now what kind of a person does this? My first surgery…it was during my third-year surgical rotation and one of the vascular surgeons decided he wanted to see if I had what it took to be a surgeon. I'm out at the scrub sink, ask him if I can come in, and he says, 'Come here,' and has me amputating a toe and pulling on it. Next thing, I have a toe in my hand. And he looked at me to see what I was going to do next, whether or not I was going to fall to the ground, unconscious. And I said, 'OK, what's next?'

"Following a surgical residency, my first job was in a Philadelphia emergency room as a trauma surgeon. They'd just gone bankrupt and there were two people in the department, my boss and me. Our caseload was a lot busier than here. An average weekend I'd open at least one chest. This was 1999. Lots of drug dealing. People were getting shot all over North Philadelphia. One day, on the way to work, I found a guy hanging from a tree and called the police. 'No,' I said to them. 'He's not alive…. No, I had nothing to do with it.'

"To crack a chest for the first time is very frightening. The first time I did it was on a kid who'd been stabbed in the posterior chest, from behind. He had arrested a few minutes out from the hospital. So I get down there and slice him open as rapidly as I can. Today I can do it a lot faster, because back then I was worried about cutting things I wasn't supposed to. We're used to the pericardium, the sac the heart's sitting in, being paper-thin; you can see right through it. On a 16-year-old, it's a quarter-inch thick, so when you start cutting, you're thinking, 'My God, am I cutting into the heart?' Eventually you open it up widely, pick up the heart, there's a clot everywhere. Lift up the heart, see a hole, you toss a Foley in there, blow up the balloon like they taught you back in the old days. Then all of a sudden, he wakes up and looks at you while his chest is open, which is slightly disconcerting, because he has no blood pressure. Ultimately this kid went on to die, because there was such ischemic insult to the heart. He passed, but I learned a lot from it. I learned you can't save everyone. Did I feel defeated? I feel defeated every time I lose one. If you don't, you shouldn't be doing this anymore.

"I've been a trauma surgeon for 12 years, a good long time. Now some people still like to think it's the moon being full that brings people in here, but I've seen lots of business on moonless nights. It's the heat that brings them in, the long days, everything that gets people out of their apartments and interacting, drinking, behaving badly, getting into trouble. Next thing you know, this one's fighting with that one. That one's stabbing that one, or grabbing a baseball bat. The other stuff happens all the time. Someone's crossing the street, certain of their right-of-way to cross. Then there's someone driving with the green light, making the turn, and they meet. Hit by cars is 50% of my business. If I stop these people from crossing the street and getting hit by cars, I'm out of business. But that's OK, that's OK."


HOSPITAL & EMERGENCY ROOM



VACCINES AND DIAGNOSTICS OVERVIEW

KEY FIGURES

(in USD millions, unless indicated otherwise)

	2011	2010
Net sales	**1 996**	2 918
Operating loss / income	**– 249**	612
Return on net sales (%)	**– 12.5**	21.0
Core operating income [1]	**135**	1 066
Core return on net sales (%)	**6.8**	36.5
Core Research & Development [1]	**494**	506
As a % of net sales	**24.7**	17.3
Free cash flow	**– 292**	1 336
Net operating assets	**5 067**	4 804
Additions to property, plant & equipment [2]	**192**	159
Number of associates (FTE) [3]	**6 122**	5 394

[1] Core operating income eliminates the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.
[2] Excluding impact of business combinations
[3] Full-time equivalent positions at year end

VACCINES LATE-STAGE DEVELOPMENT PIPELINE

	Phase I	Phase II	Phase III	Registration
Menveo 2-10 [1]				
Menveo infant [1]				
Bexsero [2]				
Fluad pediatric				
Optaflu [3]				
Agriflu pediatric				
MenABCWY [4]				
Pseudomonas aeruginosa [5]				
GBS [6]				
FCC [3] H5N1				

[1] *Neisseria meningitidis* bacteria serogroups A, C, W-135 and Y
[2] *Neisseria meningitidis* bacteria serogroup B
[3] Influenza cell culture
[4] *Neisseria meningitidis* bacteria serogroups A, B, C, W-135 and Y
[5] Collaboration with Intercell
[6] Group B Streptococcus

NEWS IN 2011

Strong underlying sales growth is driven by the meningococcal disease franchise and emerging markets.

Net sales are USD 2.0 billion, down 32% (-34% in constant currencies, or cc) compared with USD 2.9 billion in 2010. The primary driver of net sales variance is USD 1.3 billion of A (H1N1) pandemic flu vaccine sales in 2010 not repeated in 2011. Excluding A (H1N1), we achieve growth of 22% cc driven by all strategic franchises, with a particularly strong contribution from our meningococcal disease franchise – including *Menveo* – which reaches over USD 140 million in 2011 sales.

Reported operating loss is USD 249 million for 2011 compared to an operating income of USD 612 million in 2010, due in large part to the nonrecurrence of A (H1N1) pandemic flu vaccine sales from the prior year. Core operating income is USD 135 million, down from USD 1.1 billion in 2010. Excluding the impact of A (H1N1), core operating income improves over 2010.

Our strong pipeline progresses with more than 15 vaccines in clinical trials to prevent several serious infectious diseases. *Menveo* is now approved in more than 50 countries – including US and EU – for prevention of meningococcal serogroups A, C, W-135 and Y in adolescents; applications to expand approval for use in younger patients filed in countries around the world, including US. EU regulatory filing review for *Bexsero* for prevention of meningococcal serogroup B is in progress.

Majority acquisition of Chinese vaccines supplier Zhejiang Tianyuan is completed in 2011, providing an opportunity for significant expansion in the fast-growing Chinese vaccines market.

VACCINES AND DIAGNOSTICS

The emerging meningococcal vaccine franchise anchors the vaccines development pipeline and epitomizes the division's "reverse vaccinology" research approach. In 2011, the US Food and Drug Administration broadened approval o*f Menveo,* part of this growing franchise, to include patients from 2 to 10 years of age. *Bexsero*, a second vaccine against meningococcal disease, is under review by regulators in Europe.

The Vaccines and Diagnostics Division continued to deliver on the promise of its pipeline during 2011 by expanding the age indication for the quadrivalent meningococcal conjugate vaccine *Menveo* in the United States. A Marketing Authorization Application for *Bexsero*, potentially the first broad-coverage vaccine for use against disease caused by meningococcal serogroup B bacteria (MenB), is currently under review at the European Medicines Agency (EMA).

The division markets a broad portfolio of vaccines with leading positions in influenza vaccines, cell-culture-derived influenza vaccine technology and adjuvants – enhancers of vaccine efficacy. The emerging meningococcal vaccine franchise anchors a pipeline with more than 15 vaccine candidates in development.

Meningococcal disease is a rare but potentially life-threatening infection that can manifest as bacterial meningitis, an infection of the membrane around the brain and spinal cord, and septicemia, a blood infection. Most cases occur in previously healthy people without any warning, and even with early and appropriate treatment, patients can die, often within 24 to 48 hours of the onset of symptoms. Of those who survive, one in five will suffer lifelong complications such as brain damage, hearing loss and amputations.

Five serogroups, or subtypes, of *Neisseria meningitidis* – A, B, C, W-135 and Y – cause the majority of an estimated 500 000 cases of meningococcal disease that lead to more than 50 000 deaths worldwide each year. Distribution of serogroups varies widely between geographic regions and changes over time.

Menveo is a vaccine that helps to protect against four of the five major serogroups: A, C, W-135 and Y. In early 2010, regulators in Europe and the United States approved *Menveo* for active immunization of people from age 11 to 55, and the vaccine is currently approved in more than 50 countries. The clinical development program for *Menveo* was comprehensive; more than 30 clinical trials involving more than 35 000 participants have been completed or are in progress.

In January 2011, the US Food and Drug Administration (FDA) and regulators in Canada expanded the *Menveo* indication to include individuals 2 to 10 years of age, an extension currently under review at the EMA. Later in the year, the FDA accepted for review a supplemental application to extend the indication to infants and toddlers from 2 months of age. Infants are the age group most vulnerable to meningococcal disease, and represent the greatest unmet need.

BROAD COVERAGE

MenB is responsible for up to 90% of meningococcal disease cases in Europe and more than 80% of meningococcal cases among infants in Canada. Novartis Vaccines and Diagnostics submitted a Marketing Authorization Application for the investigational vaccine *Bexsero* to the EMA in late 2010.

The submission was based on completed clinical trials that involved more than 8 000 participants; data supports use of the vaccine in infants from 2 months of age and older, adolescents and adults. Additional

applications were submitted during 2011 to regulatory agencies in Brazil and Australia – as well as in Canada.

"MenB disease is a major public health concern that can have a devastating impact on vulnerable populations," said Andrin Oswald, M.D., Division Head, Vaccines and Diagnostics, and member of the Executive Committee of Novartis. "The *Bexsero* submissions are important milestones toward achieving the world's first broad-coverage MenB vaccine through our unique multi-component approach."

MenB is an exceptionally difficult vaccine target. Meningococci can mutate key genes or exchange genes with bacterial cousins from other serogroups. Expression of key proteins varies at different stages of the bacterium's life cycle. MenB can even manipulate pathways in the host to deflect attacks by the host's immune system.

"All of us who work on this bacterium should remain humble – it is not an easy road," said Peter Dull, M.D., Head of Clinical Development for Meningococcal Vaccines.

Technologies used for conjugate vaccines like *Menveo* that target the capsule of the bacterium won't work against MenB. The capsular polysaccharide found on the surface of MenB is identical to a molecule present in the human body and cannot be used safely as an antigen, the active ingredient in a vaccine. To surmount that hurdle, subcapsular proteins found in the outer membrane surrounding the MenB bacterium have been used as antigens, and vaccines based on outer membrane proteins have been deployed against epidemics in Norway and New Zealand. Those vaccines are only effective against the local strain, however, and fail to provide protection against the thousands of different MenB strains in circulation around the world.

"The ideal antigens for a MenB vaccine would be proteins found on the surface of the bacterium that are conserved across most circulating strains and induce bactericidal antibodies," Dr. Dull explained. "Unfortunately, finding those proteins was a real struggle."

"REVERSE VACCINOLOGY"

Bexsero is a prototype for a genome-based approach – known as "reverse vaccinology" – which has revolutionized vaccine discovery and development. In the mid-1990s Rino Rappuoli, Ph.D., Global Head of Research for Novartis Vaccines and Diagnostics, convinced maverick gene hunter Craig Venter to sequence the genome of *N. meningitidis.* Novartis scientists mined that sequence data to discover dozens of novel proteins that were assessed as potential antigens.

No single antigen is sufficient to provide broad protection to cover the diversity of MenB strains. But the multiple antigens ultimately selected for *Bexsero* are essential for the bacterium's survival, function or ability to cause infection, and can be found in the majority of MenB strains circulating globally.

One antigen – neisserial adhesion A (NadA) – is a protein that promotes invasion of the bacterium and adhesion to human epithelial cells, an important property for an invasive pathogen. Factor H binding protein (fHbp) is another selected antigen. It binds with Factor H, a common protein found in the blood, enabling the bacterium to evade attack by the host immune system. "The organism simply surrounds itself with Factor H to hide," Dr. Dull said. A third antigen, *Neisseria* heparin binding antigen, also helps MenB survive in human blood and is present in nearly all strains of meningococci. Finally, Novartis scientists added Por A, a protein that is important in certain highly virulent strains of MenB.

Clinical trials were conducted throughout the world, and during 2011 data from pivotal studies were published showing that *Bexsero* induces a robust immune response in infants when given alone or with other

routine vaccines in different vaccination schedules. *Bexsero* was studied in various vaccination schedules in the first year of life, when the likelihood of contracting meningococcal diseases is greatest.

PREDICTING COVERAGE

For the evaluation of a multicomponent vaccine, Novartis had to demonstrate that each of the antigens included in the vaccine generates bactericidal antibodies that contribute to killing the target organism. "That is relatively straightforward with traditional vaccines that rely on single antigens," Dr. Dull said. To fulfill that requirement for *Bexsero*, however, the Vaccines and Diagnostics Division had to identify and engineer strains of MenB that would express each vaccine antigen individually to isolate the response to each vaccine antigen.

Another challenge is to demonstrate the potential efficacy of *Bexsero* against the MenB strains circulating in a country. The solution was the Meningococcal Antigen Typing System, or MATS, an innovative method to type large numbers of MenB isolates within a geographic area.

The MATS system measures characteristics of circulating invasive MenB disease strains – in particular, levels of expression as well as the relative "match" to the vaccine antigens included in *Bexsero*. By surveying circulating MenB populations in a country or region, the proportion of strains likely to be covered by *Bexsero* and the potential public health impact of a vaccination program can be estimated.

Novartis Vaccines and Diagnostics continues to work closely with reference laboratories in major countries to roll out the MATS system and generate additional data on estimated coverage of *Bexsero*. Results of an initial study published in *Proceedings of the National Academy of Sciences* showed that antibodies induced by *Bexsero* killed the majority of MenB strains in a geographically diverse collection of strains obtained from reference laboratories in several European countries. In this proof-of-concept study, the selected strains were not intended to represent any specific regional sample but included a broad range of sequence variants among the antigens of interest – NHBA, NadA and fHbp.

At the 2011 meeting of the European Monitoring Group on Meningococci, held in Ljubljana, Slovenia, John J. Donnelly, Ph.D., Research Serology Project Leader for the *Bexsero* program, presented preliminary results of an international study estimating the potential strain coverage of *Bexero* in Europe. The study used the MATS system to evaluate invasive MenB strains isolated between July 2007 and July 2008 by national reference laboratories of England and Wales, France, Germany, Norway and Italy.

MATS results were obtained for 1 011 strains, and estimated that 78% of the strains could be covered by *Bexsero*. Coverage estimates varied across European countries, ranging from 73% to 87%.

STRUCTURAL VACCINOLOGY

Recently Novartis reported in the journal *Science Translational Medicine* the production of a synthetic version of fHbp that is potentially more potent than the natural version used in *Bexsero*.

Mr. Rappuoli and associates began by sequencing the fHbp gene in almost 2 000 different strains of MenB. That analysis identified more than 300 variants of the gene, which could be grouped into three classes. Protective antibodies generated by the fHbp protein could kill MenB strains in the same class but there was no cross-protection with other classes, limiting utility as a vaccine antigen.

Next the team pinpointed the section of the fHbp protein critical for generation of protective antibodies and transplanted sequences from variants in the other two classes in place of the corresponding sequence on the parent protein. In all, 54 different synthetic versions of fHbp were generated and tested for their ability to induce immunogenecity in mice. One of the synthetic versions, known as G1, generated protective immunity against all MenB variants tested from all three classes. This important innovation paves the way for potential future generations of MenB vaccines with even broader coverage of the diversity of globally circulating strains.

In the journal article, Mr. Rappuoli and co-authors observed that success in re-engineering natural variants of fHbp into a 3-into-1 antigen and markedly expanding MenB strain coverage "could in principle be used in other cases where sequence variability is the main obstacle to vaccine development." An accompanying editorial called the study "one of the first successful uses of atomic-level structure in vaccine design," and one that provides a glimpse of the power of structure-based vaccine design against genetically diverse pathogens.

That underscored a bold prediction Mr. Rappuoli had made in a separate article in the *Journal of Clinical Investigation* two years earlier. Reflecting on applications of reverse vaccinology to pathogens ranging from group B *Streptococcus* to antibiotic-resistant *Staphylococcus aureus*, he observed that vaccines in use today represent only the tip of the iceberg of diseases that remain to be targeted. "The genome era catalyzed a long-overdue revolution in vaccine development," he added.

Together with the emergence of structural vaccinology as another potent tool for rational design, "progress has finally put the realization of vaccines for many pathogens within reach. Indeed, in the coming years, vaccines are set to have an even greater impact on world health than they currently do."

The troubleshooter

DR. MARK PROCTOR: "I grew up in Lincolnshire, the son of a poultry farmer. My mother was a nurse and my grandfather was in the Royal Army Medical Corps, so a bit of medical history goes back in the family. People always said to me, 'Oh, are you going to be a doctor?' and I was kind of like, 'No I'll do something slightly different.' There was a bit of rebellion there. And I knew I wouldn't be a farmer. To be honest, toward the end of his working life, my father was struggling to keep the place going. So I moved on, choosing veterinary medicine.

"Back then, there were six veterinary schools in the UK, producing about 300 graduates a year, whereas now, the school sizes and classes are much larger. And in those days it was probably 80% guys, 20% ladies. It's probably the flip side of that now. Well, after graduating, I was a little bit of a wreck, looking at the jobs. I came to this practice in 1980, and was out and about in the countryside all day long. It was lots of clinical work, a lot of manual work. It was tough. My first Caesarian took me about five hours; I could probably do one in about an-hour-and-a-quarter now.

"Cows became lame; you had to tend to their feet. Cows needed their horns chopped off. It's a very physical job; they'll knock you around. Back about 20 years, this cow had calved and the farmer had asked me to look at it because it was a bit sluggish. So we went down to the field, but it was getting so dark I couldn't really see what I was doing. I stepped away from the calf and the cow comes straight for me, knocked me over, tried to kill me, because I was interfering with her calf. I was off work for three months with leg and back injuries, very lucky to survive.

"When I first began here, you could go to farms with 15 cows and do 14 calls a day. Today, you go into farms with as many as 700 cows and spend hours. It's become much more about production, about facility help, monitoring, inspections. Farmers are now looking for the vet to provide analysis of their herds. You're advising on vaccination protocols. We also look at the environment, at lameness issues, mastitis, infection rates, and udder health. And above all, the one that we spend the most time on is fertility. If you don't give the correct advice and there's production loss for five years for close to a thousand cows, can you imagine? Now, I don't think there's any easy way for vets. You have to have a wider range of skills.

"I still go out to the farms every week, and occasionally perform clinical surgery. But I'm now a senior partner within the practice, and do more planning. In 1994, Beeston Animal Health was started and is the shop that you see today. We advise farmers and when appropriate sell them what are essentially main core veterinary products as well as peripheral products like vaccines and wormers. I always thought that as a vet, I was in a better place to offer advice on those products than somebody who had very minimal training. Plus I'm, if you like, the troubleshooter. If I know that a farmer is struggling or complaining about something, then there's the possibility I might go out and say, 'Look, can I help you?' For I know who to ring up and where to go if there's a problem.

"Today, the Willows Veterinary Group employs 250 people. We split the practice into three divisions. There's the small animal division, which is 70% of our business; the equine division, 10%; and the farm division, about 20%. At the Willows, our hospital in Hartford, are doctors and nurses and medical technicians working in teams, specialists in soft tissue surgery, orthopedics and internal medicine, visiting cardiologists and ophthalmologists. And it's all quite integrated. We share our facilities, our expertise, and knowledge."

CONSUMER HEALTH OVERVIEW

KEY FIGURES

(in USD millions, unless indicated otherwise)

	2011	2010[1]
Net sales	**4 631**	4 362
Operating income	**727**	778
Return on net sales (%)	**15.7**	17.8
Core operating income[2]	**873**	845
Core return on net sales (%)	**18.9**	19.4
Core Research & Development[2]	**292**	261
As a % of net sales	**6.3**	6.0
Free cash flow	**875**	897
Net operating assets	**1 724**	1 829
Additions to property, plant & equipment[3]	**74**	64
Number of associates (FTE)[4]	**8 290**	7 728

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159.
[2] Core operating income eliminates the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.
[3] Excluding impact of business combinations
[4] Full-time equivalent positions at year end

2011 CONSUMER HEALTH MARKET INFORMATION

	OTC	Animal Health
Novartis net sales in USD millions	3 327	1 304
Novartis sales growth (cc)[1]	2.2%	4.5%
Market segment growth[2]	4.5%	5.4%
Novartis market share[3]	3.3%	6.2%
Global industry rank[4]	4	7

[1] 2011 constant currency growth vs. prior year
[2] Local currencies, sources: OTC: Nicholas Hall, MAT Q3 2011; Animal Health: internal analysis
[3] Sources: OTC: Nicholas Hall, MAT Q3 2011, local currency; Animal Health: YTD December 2011 as reported, internal analysis
[4] Sources: OTC: Nicholas Hall, MAT Q3 2011, local currency; Animal Health: Internal NAH MAT Q3 2011 figures, internal analysis

NEWS IN 2011

The two Consumer Health businesses, OTC and Animal Health, together deliver 2011 sales growth of 6% (+3% in constant currencies, or cc) to USD 4.6 billion.

Operating income rises 4% in constant currencies but declines in USD (-7%), totaling USD 727 million. Core operating income increases by 3% (+12% cc) to USD 873 million, with constant currency core operating income margin up by 1.8 percentage points, delivering strong operating leverage.

OTC delivers low-single-digit growth driven by emerging markets and priority brands. In nine out of the top ten countries for OTC, volume growth outpaces the market. At the end of December, a temporary suspension of operations and voluntary recall of *Excedrin*, *Bufferin*, *NoDoz*, and *Gas-X* products at the US manufacturing facility in Lincoln, Nebraska, impact results in the US.

Animal Health contributes mid-single-digit sales growth over the previous year, continuing to outpace markets outside the US. *Denagard* generates strong growth in US and international pig and poultry markets, and in Europe, *Milbemax* retains its position as the number one dewormer for cats and dogs. In our top six emerging markets, Animal Health delivers double-digit growth.

CONSUMER HEALTH

The main Novartis Animal Health facilities for aquaculture research and vaccine manufacture are based in Prince Edward Island, Canada, where Novartis and predecessor companies have been a pillar of local industry for decades. Thanks in part to the local expertise and fish farming industry, Novartis was the first company with licensed vaccines against two serious fish diseases.

In 2007 and 2008 Chile's flourishing aquaculture industry was devastated by an epidemic of infectious salmon anemia virus (ISAV). The epidemic tore through dozens of salmon farms perched along sheltered waters of fjords that shear the country's southern coast. By 2009, production of Atlantic salmon had plunged to about 200 000 tons from more than 600 000 tons in 2006, the peak year before the ISAV epidemic. Thousands of jobs were lost, and more than half of Chile's salmon cultivation centers suspended production.

Chile wasn't the first country struck by ISAV, which is a distant cousin of the influenza virus. Just as in influenza pandemics, chance genetic shifts sometimes transform noninvasive strains of ISAV into a lethal threat to fish lacking immunity. Norway, the world's number one producer of farmed Atlantic salmon, reported the first ISAV outbreak in 1984, and endured severe epidemics in 1991 and 1992. Salmon farms in eastern Canada, Scotland and the Faeroe Islands were besieged by ISAV in the late 1990s.

Like those other nations, Chile began rebuilding its fish farming industry once the epidemic abated. Authorities have ordered important changes to improve the way salmon are farmed, and two measures have proved particularly effective. Regions afflicted by ISAV were fallowed for several months to eliminate the virus. Then companies agreed voluntarily to reintroduce only fish vaccinated against ISAV. The vaccine used by the vast majority of Chilean salmon farms is *ILAvacc*, developed by Novartis Animal Health.

The Aqua franchise at Novartis Animal Health has grown dynamically in recent years, buoyed by a broad portfolio of innovative vaccines. Novartis was the first company to offer licensed vaccines against both ISAV and infectious hematopoietic necrosis virus (IHN). The *Apex*-IHN vaccine from Novartis – based on a novel nucleic acid technology – was launched amid an outbreak of IHN in salmon farms across Canada's British Columbia province. Millions of fish have received *Apex*-IHN, and there have been no reported outbreaks of the disease since introduction of the vaccine in 2003.

Compared with conventional inactivated viral vaccines, nucleic acid vaccines are highly effective, better tolerated and induce a more powerful immune response conferring long-lasting protection. *Apex*-IHN was the first nucleic acid vaccine approved for use in a food animal species, and this pioneering vaccine platform is an example of cutting-edge research and development at Novartis Animal Health.

"Rapid growth of the aquaculture industry and the appetite of customers for innovation are what make this business so attractive," said Matthias Hofer, Head of the Aqua franchise. "We are confident that our strong pipeline of conventional and nucleic acid vaccines will enable us to grow along with our customers."

AQUACULTURE POWERHOUSE

Approximately half of seafood consumed by humans today is produced by aquaculture, and demand is expected to grow dramatically, to 80 million tons by 2030 from about

50 million tons in 2008. With fishing stocks depleted or overexploited in many parts of the world, global catch of wild fish is expected to decline slightly in coming decades, as aquaculture production climbs steadily to meet rising demand.

The main Novartis facilities for aquaculture research and vaccine manufacture are based in the Prince Edward Island province in eastern Canada. Despite its remote location and modest population of about 145 000 residents, the island is a powerhouse within the tight-knit ranks of global aquaculture.

For decades, Novartis and predecessor companies have been a pillar of local industry. The Aqua franchise has fostered close links with the Atlantic Veterinary College of the University of Prince Edward Island, a world leader in fish health research. In 2010, Novartis further strengthened that relationship by establishing the Novartis Research Chair in Fish Health at Atlantic Veterinary College, a faculty appointment that aims to advance the basic science of fish diseases and health management.

Over the past five years, Novartis Animal Health has invested more than USD 13 million in operations on Prince Edward Island, including a USD 2.8 million expansion of the Aqua franchise's research and development center, and construction of a new manufacturing facility in the province's capital city, Charlottetown. "This is an ongoing commitment that will help us maintain a leadership position and support the growth of the salmon industry worldwide," said George Gunn, MRCVS, Division Head, Novartis Animal Health, and member of the Executive Committee of Novartis.

The investment program also mirrors the provincial government's commitment to expand the local biotechnology industry under an "Island Prosperity Strategy" unveiled in 2007. "In the longer term, bioproducts from the sea constitute an emerging area of immense potential," authors of the Island Prosperity Strategy declared. To foster growth of more than 30 firms in the nascent biotech sector, Prince Edward Island pledged extensive interaction with industry and pursuit of new collaborations within the region, across the country and indeed, throughout the world. "We live in a global context and we need global linkages if we are to succeed and prosper," the strategy concluded.

Michael Mayne, Ph.D., Deputy Minister for Innovation and Advanced Learning, and a principal architect of the Island Prosperity Strategy, highlighted the importance of the Novartis connection for the ongoing economic rejuvenation of the province. "When you think about the historic culture of a small place like Prince Edward Island, it's been embedded for hundreds of years in farming and fishing. We are trying to broaden the base of those traditional industries. Novartis can capture that energy and turn it to its advantage," Mr. Mayne said.

"Biotech is one of the key areas where we believe we can rapidly mobilize the troops and rally around companies like Novartis Animal Health. Part of my job is to make sure that Novartis grows here. Not just stays, but grows."

To Mr. Gunn, Prince Edward Island provides an example of enhancing competitiveness while advancing economic and social conditions of the local community in which it operates. "It's a classical case of shared value," he added. "We start with a business that has value to the company because we are trying to sell products and ultimately make a profit. But we end up with something that has huge value to society."

FROM ANTIBIOTICS TO VACCINES

The roots of Novartis operations on Prince Edward Island stretch back more than 25 years, to a management buyout of a portfolio of veterinary vaccines from Canada's

Connaught Laboratories. The new company, called Aqua Health Ltd., was drawn to Prince Edward Island by an attractive funding package provided by the provincial government. In 2001 Novartis acquired Aqua Health.

As part of a global healthcare group, the new Novartis Aqua franchise benefitted from an industrywide shift to prevention – through use of vaccines – from traditionally heavy use of antibiotics. In Norway, annual consumption of antimicrobial drugs for therapeutic use in farmed fish peaked in 1987 at almost 50 tons. The comparable figure for 2010 was less than 1 ton.

"It has been a double-win for salmon farms," Mr. Hofer said. "It makes their operations more sustainable, and vaccines are a more cost-effective way to prevent disease."

Atlantic salmon are vaccinated once they have attained a weight of about 30 grams but before they are moved to the sea for the subsequent two years of development, when risk of infection is greatest. Most conventional vaccines expose fish to an inactivated form of a whole bacteria or virus, boosted with an adjuvant, or additive, that enhances immune response and subsequent protection.

Nucleic acid vaccines, such as the pioneering *Apex*-IHN vaccine from Novartis Animal Health, use only the relevant genetic components of the virus so there is no possibility of inducing the disease. The genetic components of the vaccine are inserted into a circular piece of nucleic acid called a plasmid. Injected into the muscle of the fish, the vaccine acts by carrying information about the virus directly to cells, mimicking the natural infection of the virus. The *Apex*-IHN vaccine has been approved in Canada.

Building on that initial success with the nucleic acid technology, Novartis is developing a novel vaccine against pancreas disease, a major threat to fish health caused by the salmonid alphavirus. Subtypes of the virus have been identified to date in Ireland, Scotland and Norway, and the disease costs fish farmers tens of millions of dollars per year in lost sales. If development and testing are successful, the new pancreas disease vaccine would be the first nucleic acid vaccine approved in Europe, another groundbreaking achievement for Novartis Animal Health.

MONITORING SEA LICE

Sea lice represent another prime target for Novartis researchers. Sea lice are natural seawater parasites that colonize the skin of fish and attack underlying tissue. With physical and immunological integrity severely compromised, secondary infection and death frequently follow unless lice numbers are tightly controlled. In recent years, several countries have reported the emergence of sea lice strains resistant to treatments that previously were highly effective.

Diminished efficacy of a sea-lice-control product led to a massive infestation of sea lice in New Brunswick in 2010. Provinces in eastern Canada are investing aggressively, both to identify risk factors leading to such infestations and to maintain regular monitoring programs that allow preventive steps to be taken early enough to mitigate effects of an outbreak.

Mark Fast, Ph.D., the Canadian scientist who holds Atlantic Veterinary College's Novartis Research Chair, has a longstanding interest in sea lice. In a complementary collaboration, Novartis Animal Health joined with academic and industrial supporters in Norway during 2011 to establish an international Sea Lice Research Center. Based at the University of Bergen, the new center will become the world's leading center for research on sea lice and related parasites.

NEW MARKETS

As a relatively young industry, continued growth of aquaculture is expected as companies such as Marine Harvest diversify into production of new farmed species ranging from halibut and cod to sea bass and sea bream. Geographical diversification will also drive growth, especially in Asia, where traditions of fish farming extend back over many centuries.

According to the United Nations Food and Agricultural Organization, production of farmed salmon reached 1.5 million tons in 2008. In the same year, aquaculture output in China exceeded 32 million tons, or 62% of global production by volume and 51% by value. Aquaculture production in 2008 exceeded 1 million tons each in India, Vietnam, Indonesia, Thailand and Bangladesh, ahead of Norway and Chile in global rankings. Ongoing industrialization of aquaculture across the region promises to boost productivity and open new markets for Novartis Animal Health.

Novartis Animal Health is scouting for opportunities to gain an early foothold in Asia's aquaculture markets. "We want to get to know the customers and potential species better," Mr. Gunn said. "I expect to see an evolution in Asia similar to salmon farming in Europe and North and South America. It will take time, but ultimately fish farming will be possible in new areas, thanks to our vaccines – and we will help to bring prosperity to many communities in Asia, as well."

An onset of malaria

EUGENE RICHARDS: "The district hospital in the bustling, dusty Tigrian town of Alamata sits behind a gated wall. With its dozen or so buildings and rush of people in and out, it can be likened to a kind of village in itself. The rooms in each of its wards are high-ceilinged, barely lit, spare (no TV, drapes, screens on the windows), yet cleaner and more welcoming than you would think possible with there being but two doctors and a modest staff overseeing 70 beds in all.

"A telephone call had come from the hospital this morning. Though it was mid-November – which means the peak season for malaria in Ethiopia had passed – two patients suffering the mosquito-borne disease were now in their care. One was a 17-year-old boy who'd been comatose when he was rushed in; the other, a 3-year-old girl.

"Ushered into the room, we were introduced to the boy, Berhe Birhanu, who was lying in the bed closest to the door. Half-asleep, attached to an IV, he was staring up at his brother Habtu, who was lovingly stroking his forehead and hair. Berhe's grandmother and brother

Kurfay were but a few feet away, slumped forward in their chairs, clearly exhausted. In time we would come to learn that the grandmother's own long-term health had sometimes been so precarious that she had had difficulty caring for her family. As for Kurfay, he'd grown weary worrying both about the fate of Berhe and his own recent loss of income. With their father 'gone from the area,' it had become his responsibility to support the family. He did so working long, long hours as a barber. But now he was losing 50 birr a day in business for each of the seven days he'd spent bedside at the hospital, a significant amount of money in a country where the average income is the equivalent of about $300 a year.

"'But why do all of you come to the hospital every day?' I asked through the interpreter. The brothers drew closer to Berhe and explained that malaria was nothing new to their family. Each of the five children had suffered repeated bouts of the disease. Berhe alone had had three attacks since September. But this time, in addition to the shivering, the fever, and the pain in his arms and legs, Berhe couldn't stop throwing up and his urine was 'changing to the color of cola.' When he was brought to the hospital, he was delirious, unconscious. His family was so frightened they didn't dare leave his bedside. Even when his condition began to visibly improve, they feared he might die. And then if he did die, it would be left to them to carry him home.

"The ward for young children was at the far end of the district hospital. It was a long narrow room, tidily kept, that had pale blue mosquito nets hanging above each of the beds. Mosquito netting can be a little like winter ice on a window, revealing what's behind it only as muted colors and shapes. At first glance, after entering, I could barely see 3-year-old

Ferhan Derbie, lying on a bed in the arms of her grandmother. When I said hello, the child's mother, Ergo Mohammed, barely looked up. She reached for her baby's hand, adjusted and readjusted the IV line, wiped at her own eyes with the hem of her shawl. It became clear that though Dr. Getachew, the medical director of the hospital, had told her that her daughter could very soon return home, she remained apprehensive. Every five months since she'd been born, little Ferhan had suffered an attack of malaria, which began with the telltale fever and produced seizures. The girl's mother and her father Derbie Nigus, a local merchant, would immediately rush her to the local clinic for treatment. Afterwards, her parents did what they could to prevent the illness from recurring; they kept their mud-and-stone house as clean as possible and employed mosquito netting over their beds. Still their only daughter was stricken again and again.

"Though Ferhan's prognosis was good – she was in fact scheduled to be discharged from the hospital the following morning – her mother remained sick with worry. So many children in their village had died, and months earlier, a close friend of her husband had died. The scourge of malaria, though under attack, is still with us."

CORPORATE CITIZENSHIP

Corporate Citizenship at Novartis is integral to how we operate and key to our success.

Our Corporate Citizenship commitment rests on four pillars:

Patients

We help patients worldwide share the benefits of advances in medicine and technology. Even as we seek to prevent, diagnose and treat disease, we forge innovative, sustainable commercial models to expand access to healthcare.

People and Communities

We want to ensure that we treat our people with respect and fairness, and that we are integrated in the communities in which we live and work.

Environment

Careful stewardship of natural resources – particularly tight control of greenhouse gas emissions, energy efficiency and waste – is important to us.

Ethical Business Conduct

We strive for high performance with integrity.

CONTENTS

CORPORATE CITIZENSHIP KEY PERFORMANCE INDICATORS

Indicator	2011	2010	2009	2008	2007
Economic [1]					
Net sales in USD billions	**58.6**	50.6	44.3	41.5	38.1
Net income in USD billions; % of net sales	**9.2; 16%**	10; 20%	8.5; 19%	8.2; 20%	6.5; 17%
Core Research & Development in USD billions; % of net sales	**9.2; 16%**	8.1; 16%	7.3; 16%	6.8; 16%	6.2; 16%
Purchased goods and services [2] in USD billions; % of net sales	**26.8; 46%**	22.3; 44%	21.3; 48%	20.3; 49%	19.4; 51%
Personnel costs in USD billions; % of net sales	**14.9; 26%**	12.2; 24%	10.9; 25%	10.6; 26%	9.9; 26%
Taxes in USD billions; % of net income before taxes	**1.5; 14%**	1.7; 15%	1.5; 15%	1.3; 14%	0.9; 13%
Dividends in USD billions; % of net income attributable to Novartis shareholders [3]	**5.8; 63%**	5.4; 55%	4.5; 53%	3.9; 49%	3.3; 51%
Cash returned to shareholders via second-line share repurchases in USD billions; % of Group total net income	**2.4; 26%**	0; 0%	0; 0%	0.3; 0%	4.7; 39%
Share price at year-end (CHF)	**53.70**	54.95	56.50	52.7	62.1
Patients [4]					
Access to medicine: value in USD millions	**1 784**	1 544	1510	1259	937
Access to medicine: number of patients reached in millions	**89.6**	85.5	79.5	73.7	65.7
People and Communities					
Full-time equivalent positions	**123 686**	119 418	99 834	96 717	98 200
Resignations (incl. retirements); separations; hiring (% of associates)	**8; 4; 15**	8; 3; 14	8; 3; 14	10; 5; 14	9; 4; 17
Women in management [5]: % of management; % of Board of Directors	**36%; 18.2%**	36%; 16.7%	35%; 16.7%	37%; 8.3%	35%; 8.3%
Number of associate nationalities	**153**	149	144	143	139
Lost-time injury and illness rate (per 200 000 hours worked) [1,6,7]	**0.15**	0.18	0.22	0.34	0.42
Total recordable case rate (per 200 000 hours worked) [1,6,7,8]	**0.54**	0.73	0.93	1.09	1.42
Transportation-related injuries leading to lost time [1,6,7]	**26**	49	58	77	92
Environment [1,7,9]					
Contact water use, excluding cooling water (million m^3)	**16.0**	15.1	15.0	15.1	15.4
Energy use (million GJ), on site and purchased	**17.4**	17.6	17.0	16.9	16.8
GHG emissions, Scope 1 vehicles (1000 t)	**155**	168	176	183	197
GHG emissions, total Scope 1, including vehicles, and Scope 2 (1000 t)	**1 459**	1 507	1 510	1 526	1 498
Total operational waste not recycled (1000 t), hazardous and non-hazardous	**142**	154	141	138	175
Ethical Business Conduct					
Novartis associates trained on Code of Conduct via e-learning course [10]	**14 419**	18 302	29 493	15 990	16 697
Associates completing certification on Code of Conduct	**33 080**	29 835	26 300	26 750	27 000
Cases of misconduct reported; substantiated [11]	**1 522; 825**	1 236; 743	913; 541	884; 374	906; 421
Dismissals and resignations related to misconduct [11]	**384**	608	564	217	249
Total number of suppliers	**225 500**	241 365	206 155	228 769	228 558
Suppliers informed of Novartis Third-Party Guidelines (annual sales of more than USD 100 000 and not requiring a self-declaration)	**45 203**	39 575	45 858	28 792	61 715
Suppliers to confirm key standards (self-declaration)	**3 926**	3 388	842	1 157	1 377

[1] Data for 2007 have been adjusted to exclude Consumer Health Nutrition operations divested in 2007, unless otherwise stated
[2] As included in the Net Novartis Added Value Statement
[3] Dividend payment 2011: proposal to the 2012 Annual General Meeting
[4] See table on page 65 for additional detail
[5] Management defined locally; the actual reporting relationship of these executives is to executives and/or the boards of directors within the companies that employ them. Data source % of management: FirstPort (Local Mgmt.Flag) as of October 2011.
[6] Excludes data for contractors
[7] Alcon data not included in Group figures; reported separately on page 77
[8] Includes all work-related injury and illness, whether leading to lost time or not
[9] Details see: www.novartis.com/environmental-care
[10] Figures include new Novartis associates and those not previously trained, as well as certain associates of third parties who work within Novartis
[11] Figures of previous years have been updated to reflect completion of outstanding investigation

Novartis continues to provide the pioneering medicine *Coartem* to public health systems in developing countries at no profit following expiration of a landmark 10-year distribution agreement with the World Health Organization. The *Coartem* program is more dynamic than ever: Orders received reached record levels during 2011. Novartis also is contributing to the elimination of malaria through research programs that have generated novel investigative compounds. SMS for Life, another innovative program, is harnessing text messaging and mobile phones as potent tools for supply chain management.

Coartem, a pioneering medicine from Novartis, has become the standard of care for millions of people around the world at a time when new medicines are urgently needed against deadly drug-resistant forms of malaria.

Coartem was the first artemisinin-based combination therapy (ACT), pairing the most potent class of antimalarial compounds currently available with a second active ingredient to delay the advent of resistance. For a decade, Novartis has provided *Coartem* at no profit for use in public health systems across sub-Saharan Africa.

"There is no better partner than Novartis in the fight against malaria," said Jeffrey Sachs, director of the Earth Institute at Columbia University. "The company's contribution is exemplary and inspiring."

In 2001 Novartis and the World Health Organization (WHO) unveiled an agreement to provide *Coartem* without profit for use by public health systems in developing countries. At the time, public-private partnerships were still relatively untested. Scientists at the WHO and other United Nations agencies remained wary of close ties with private industry. Novartis and the WHO made cautious predictions that *Coartem* deliveries would reach 2 million treatments by 2005.

Looking back, those early projections were far too conservative – the *Coartem* program has become one of the largest access-to-medicine initiatives. Novartis has provided more than 480 million *Coartem* treatments since 2001, helping save more than 1 million lives, according to internal estimates. More than half of those treatments have been earmarked for children under the age of 5.

In May 2011 the Novartis Malaria Initiative entered a new phase with expiration of the WHO partnership. Reaffirming the company's long-term commitment to the battle against malaria, Novartis pledged to continue to provide *Coartem* to public health systems in developing countries on the same terms as before.

"Through our decade-long collaboration with the WHO, we pioneered not-for-profit supply of *Coartem*," said Joseph Jimenez, Chief Executive Officer and member of the Executive Committee of Novartis. "But improving access to medicine in developing countries is not just a matter of buying medicines and distributing them. It requires bringing together good clinical practice, logistics management and other expertise to ensure sustainability. Innovation is also critical: We have to continue to discover new classes of treatments to stay one step ahead of the parasite and the threat of resistance."

In most respects, the *Coartem* program is more dynamic than ever. A record 100 million treatments were delivered during 2011, and production is running at maximum capacity. Enhanced affordability and accessibility have helped broaden use of *Coartem* to more than 60 countries today, from 12 countries in 2004.

According to WHO estimates, the number of malaria cases worldwide decreased by more than 40% between 2004 and 2009, while the number of malaria deaths declined by 22% during the same period. In 2008, UN Secretary-General Ban Ki-moon unveiled a new Global Malaria Action Plan calling for malaria prevention and treatment programs to become universally available for at-risk populations by the end of 2010.

Reiterating those objectives in April 2010, he declared: "Where countries have been able to provide bed nets and treatment to significant proportions of their populations, malaria cases and deaths have fallen by as much as 50%. Overall child mortality rates have declined, too. These achievements show that the battle against malaria can be won … and give great cause for optimism in our work toward the Millennium Development Goals."

ELIMINATING MALARIA

Buoyed by remarkable progress in control of malaria, major international agencies, charitable donors and a growing number of governments in endemic countries now aim to eliminate malaria. "There are countries eliminating malaria in all endemic regions of the world," said Robert Newman, M.D., Director of the WHO's Global Malaria Program. "With the highly effective interventions now available, no one should die from malaria. If we can achieve universal access and utilization of these interventions while investing in research to develop tomorrow's transformative tools, then the country and regional goals of malaria elimination will become a reality."

Currently 32 nations are pursuing an elimination strategy and appear likely to succeed, provided they are adequately supported by donors and international organizations. Elimination is a more distant prospect for many countries in sub-Saharan Africa, however, reflecting both the high intensity of local transmission and substantial movement of people across borders, which creates the constant potential for malaria importation.

Novartis is making significant contributions to the global campaign to eliminate malaria. One example is a study in Burkina Faso in which *Coartem* is being used to treat asymptomatic carriers of malaria parasites to reduce disease transmission. Gametocytes, the sexual stage of the malaria parasite, do not cause malaria symptoms but are responsible for transmission of the disease when ingested by a mosquito in a blood meal and inoculated into the next person bitten. Several studies have confirmed that rapid clearance of gametocytes by *Coartem* breaks the cycle of transmission between the mosquito and human hosts. Depending on results of the Burkina Faso study, expected during 2012, countries might consider mass administration of ACTs to stanch parasite transmission.

At the same time, however, the need for new drugs has been heightened by the emergence of resistance to ACTs in parts of Asia. The WHO has presented a global plan to contain artemisinin resistance but warned in a recent report there may be a limited window "for containing or eliminating artemisinin resistance before it spreads to high transmission areas, endangering all recent advances in malaria control."

Novartis scientists have discovered two new classes of antimalarials in the past two years. One promising compound, known by the research number NITD609, completed an initial clinical study and began a Phase II clinical trial during 2011. NITD609 belongs to a new class of antimalarial compounds known as spiroindolones that work by suppressing protein synthesis in malaria parasites, a novel mechanism of action.

In late 2011 the journal *Science Express* reported discovery by Novartis researchers of another new class of antimalarial compounds. This class of dual-acting compounds – known as imidazolopiperazines, or IZPs – targets the malaria parasite at both the liver and blood stages of its reproductive cycle. Parasites first infect the liver before moving to red blood cells; to eliminate malaria, researchers believe that future antimalarials will have to work against both blood and liver stages. The lead candidate in the IZP class from Novartis is expected to begin clinical testing during 2012.

POOLED RESOURCES

Discovery and early development of NITD609, as well as the IZP class, were the result of pooled resources and efforts of scientists at the Novartis Institute for Tropical Diseases (NITD) in Singapore, the Genomics Institute of the Novartis Research Foundation based in La Jolla, California, and the Novartis Institutes for BioMedical Research in Basel, Switzerland, as well as external collaborators.

With *Coartem,* and potentially these latest discoveries, Novartis has tackled the biggest unmet need – treatment of severe uncomplicated malaria caused by the parasite *Plasmodium falciparum*, the deadliest form of the disease. Yet to reach the goal of elimination, research in coming years must focus on other niche indications that traditionally have not received attention.

"Elimination of malaria is a daunting challenge, and to reach that goal we need new medicines," said Thierry Diagana, Ph.D., Malaria Program Head at NITD. "There are many areas of unmet need, and future treatments for malaria will need to target specific niches to drive out the disease," he added. "It is an opportunity to change the map – and that doesn't come around very often. Novartis is tackling these challenges head-on."

Areas of unmet need range from the need for new drugs to treat severe malaria and effective treatment of pregnant women

to drugs that block disease transmission that could be used in mass drug administration programs in certain areas where incidence of the malaria already has been reduced significantly. Another major unmet need is a treatment against *Plasmodium vivax*, a strain of the malaria parasite common in Latin America and Asia. *P. vivax* malaria represents a tougher target because some parasites not only cause an acute infection but also remain dormant in the liver from which they trigger recurrent bouts of the disease. "So far *P. vivax* has been pretty much ignored. It is an example of the new directions in drug discovery needed to make serious progress toward elimination," Mr. Diagana said.

SUPPLY CHAIN MANAGEMENT

Unreliable supply chains have frustrated efforts to enhance access to medicine in sub-Saharan Africa. Sustaining medical stocks in rural areas often is a tougher problem than getting the medicines to Africa in the first place.

In 2009 Novartis designed and launched a novel program that adapts mobile phones as a tool for supply chain management. Known as SMS for Life, the system automatically sends a weekly text message to all health posts and health facilities in a country, requesting reports on stock levels of medicines against malaria – in particular artemisinin-based combination therapies (ACTs) such as *Coartem* that the World Health Organization recommends as first-line treatment. Replies are collected to provide an overview of stock status and needs.

In addition to stock management of medicines and, in some cases, rapid diagnostic tests and other healthcare products, SMS for Life enables healthcare systems to track consumption, improving accuracy of forecasting and timely orders to avert running out of stock. The first big test of SMS for Life was a pilot program in parts of Tanzania. During 2011 the program was scaled up to cover all 5 000 health facilities across the country. Collection of stock information was expanded to medical stores managed by Tanzania's Ministry of Health, allowing for the first time a weekly overview of total stock nationwide, whether held in a health facility, a hospital or the Ministry's own regional and central stores.

An epidemiological forecasting model designed by the Swiss Tropical and Public Health Institute has been integrated to SMS for Life, assessing burden of malaria as the basis for projections of future demand for medicines and diagnostic tests. "That will allow the Ministry of Health time to plan for the first time," said Jim Barrington, program director for SMS for Life. "The system will show if they are ordering enough and even calculate requirements by age group."

From 2012, Tanzania's Ministry of Health will assume responsibility for management and funding of SMS for Life for a minimum period of three years. Operating costs for each health district are estimated at about USD 100 per year: Affordability was a crucial target for the project. The model is also fully commercial for all network operators; four mobile phone companies in Tanzania make money on SMS messages sent back and forth. "For future sustainability, we said from the start that SMS for Life had to be viable at a price point the poorest countries could afford, without donations," Mr. Barrington added.

UPGRADING INFORMATION

Additional products can easily be added to the stock monitoring system: A new pilot program funded by Novartis is under way in five districts of Tanzania to track stock levels for medicines against leprosy and tuberculosis. "If successful, we would expect the Ministry of Health to want to take that over, as well; the incremental operating cost would be marginal for the system," Mr. Barrington said.

The amount and sophistication of information collected via SMS for Life also can be upgraded easily. "Today Tanzania is using the cheapest, most basic mobile phone, and the data being collected is limited to what can be sent accurately and reliably in a text message," he added. "As technology moves into Africa, and health facilities switch to smartphones or even computers, the system will be able to provide additional functionality."

Interest in SMS for Life is spreading rapidly. Ghana has started a six-month pilot program, jointly funded by Novartis and the Swiss Tropical and Public Health Institute, to track 10 products related to malaria, as well as antibiotics and even supplies of blood. According to estimates, 50% of institutional maternal mortality in the region is related to hemorrhages during childbirth, and women have died awaiting transfusions while searches for blood were under way. Many of these deaths could be avoided through improved monitoring and management of blood supplies.

Kenya is testing SMS for Life to help manage stocks of malaria medicines. In addition, it will collect weekly data from health facilities on the number of patients visiting a facility, the number tested for malaria with rapid diagnostic tests, and the number of positive test results that led to treatment with antimalarial medicines. The reports will be aggregated automatically to provide national surveillance data each week.

Data on case management is essential to assess the cost-effectiveness of rapid diagnostic tests that were rolled out simultaneously with the SMS for Life pilot in Kenya. Because infants and young children are exceptionally vulnerable to malaria, healthcare professionals still treat virtually

NOVARTIS ACCESS-TO-MEDICINE PROJECTS 2011

Project	Description	Target region	Value (USD millions)	Patients
Malaria [1]	Provide *Coartem* without profit for public sector use	Africa, Asia, Latin America	269	84 470 000
Leprosy/WHO [2,3]	Eliminate leprosy by providing free medications to all patients worldwide with WHO	Global	6	318 000
Tuberculosis [2,3]	Donate fixed-dose combinations	Tanzania	2	121 000
Fascioliasis [4]	Provide *Egaten* free of charge to treat patients infected with fascioliasis	Bolivia, Egypt, Iran, Madagascar, Switzerland, Vietnam, Yemen	0.1	170 000
Novartis Foundation for Sustainable Development (NFSD) [5,6]	Improve health and quality of life of poor people in developing countries through think tank, policy and project work	Developing countries	10	3 713 000
Novartis Institute for Tropical Diseases (NITD) [5]	Discover novel treatments and prevention methods for major tropical diseases; NITD discoveries to be available in poor endemic countries without profit	Developing countries	15	-
Novartis Vaccines Institute for Global Health (NVGH) [5]	Develop effective and affordable vaccines for neglected infectious diseases of developing countries	Developing countries	10	-
US patient assistance program (PAP) [2] (excl. *Gleevec*)	Assist patients experiencing financial hardship, without third-party insurance coverage for their medicines	United States	269	103 000
Gleevec US PAP [2,7]	Within capability of Novartis, continue to ensure access for patients in the US who cannot afford the drug	United States	144	4 000
Glivec Global PAP/ *Tasigna* Global PAP [2,7,8]	Within capability of Novartis, continue to ensure access for patients outside the US who cannot afford the drug	Global (excluding US)	933	47 000
Alcon medical missions [9]	Provide traveling medical teams with Alcon products	Developing countries	49	705 000
Alcon US patient assistance [9] (all programs)	Assist patients experiencing financial hardship by providing Alcon products	United States	17	19 000
Emergency relief and other donations	Support humanitarian organizations	Global	59	-
Total			**1 784**	**89.6 million**

[1] During 2011, 84.5 million *Coartem* treatments reached patients based on a preliminary analysis of local distribution. Of these, 43.9 million treatments came from shipments completed in 2010, and 40.6 million from shipments in 2011. A total of 100.1 million treatments were shipped in 2011. Value was calculated using the number of treatments shipped in 2011 and the ex-factory price of *Coartem* to private-sector purchasers in malaria-endemic developing countries, excluding private-sector buyers using the Affordable Medicines Facility for malaria, minus payments to Novartis to cover costs under terms of the public-private partnership with the WHO, which formally ended in May 2011. 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.

[2] Ex-factory price to private market

[3] Value and patients are based on WHO estimates

[4] Manufacturing costs

[5] Novartis operating costs

[6] Patients number indicates beneficiaries of projects supported by NFSD and partners; beneficiaries include patients, healthcare professionals and members of health insurance schemes.

[7] US donations of *Tasigna* are included in US patient assistance program

[8] Value and patients include donations under shared contribution and co-pay models

[9] Full US retail value

all fever in under-5s with antimalarial drugs. But studies in some African countries have shown that only a relatively small proportion of fevers in adults is actually caused by malaria. Use of rapid diagnostic tests more than covered their cost in these studies by reducing waste and unnecessary use of *Coartem* and other ACTs.

QUALITY EYE CARE FOR PATIENTS IN NEED

Alcon, our newest division, also has a long history of corporate responsibility. Alcon's work focuses on training new eye care professionals and continuously developing their skills.

One of the highlights in 2011 has been Alcon's sponsorship of a three-week program of the Orbis Flying Eye Hospital in Ulaanbaatar, Mongolia.

The Orbis Flying Hospital is part airborne eye hospital, part mobile ophthalmic teaching facility, that carries an international medical team to developing countries around the world. With the specially equipped DC-10 jet aircraft parked at an airport, local doctors, nurses and technicians work alongside the medical team and observe surgeries performed in the operating room on board. During the recent program in Mongolia, more than 80 local ophthalmologists received training.

Since the first program in 1982, the Orbis Flying Eye Hospital has traveled to more than 80 countries and saved the sight of millions of people. Alcon joined forces with the Orbis Flying Hospital before that maiden flight and, over three decades, has provided financial contributions, ophthalmic equipment and medical supplies.

The Orbis Flying Hospital is a cornerstone of Alcon's support to medical training initiatives in developing countries through hospital-based programs, fellowships and online consultations.

In yet another initiative, Alcon is helping to bring eye care to remote rural areas of China by providing operating room equipment used to refurbish a Lifeline Express Hospital Eye Train. In addition, Alcon is supporting the establishment of regional training centers responsible for core training of resident eye care doctors. The training centers will be located in capital cities of less developed Chinese provinces and, like the eye trains, will improve access to cataract surgery for people in need.

The first eye train went into service in 1997, and today four trains provide more than 12 000 cataract operations per year for people in regions with limited local access to quality eye care. Each eye train includes consultation rooms, sanitization rooms, operating theaters and recovery rooms equipped with the latest Alcon medical equipment and eye care technology.

CORPORATE CITIZENSHIP: KEY TARGETS AND RESULTS FOR 2011 AND KEY TARGETS FOR 2012

ACCESS TO MEDICINE

Targets 2011	Results 2011	Targets 2012
Complete rollout of *Coartem* Dispersible in the public sector. Continue rollout of *Coartem* and *Coartem* Dispersible under phase one of AMFm. Broaden the Arogya Parivar portfolio with four additional products covering two therapeutic areas.	In 2011, more than 90 million *Coartem* treatments provided, both to the public sector and under phase one of AMFm, including 50 million treatments of *Coartem* Dispersible. *Rabipur* vaccine (antirabies) added to Arogya portfolio. Three additional products for gastrointestinal health being evaluated for smaller pack sizes.	Complete rollout of *Coartem* and *Coartem* Dispersible under phase one of AMFm. Further expand access to *Coartem* and *Coartem* Dispersible in selected malaria endemic countries. Improve Arogya supply chain efficiency for remote villages by appointing direct distributors.

NOVARTIS INSTITUTE FOR TROPICAL DISEASES

Targets 2011	Results 2011	Targets 2012
Proof-of-concept studies with NITD609. Start of clinical trials with second compound. Deliver dengue or TB early pipeline compounds.	Phase I of NITD609 completed, POC declaration postponed to early 2012 due to nonscientific-related issues. KAF156 will enter Phase I in 2012. Two compounds – against malaria caused by *P. vivax* and tuberculosis – reach candidate selection phase.	Enter Phase IIa with NITD609 (POC) and Phase I with KAF156.

NOVARTIS VACCINES INSTITUTE FOR GLOBAL HEALTH

Targets 2011	Results 2011	Targets 2012
Vi-CRM_{197} Phase II dose ranging study completed and substantial progress toward *Paratyphi* A and *Shigella* vaccines.	Age de-escalation study completed for Vi-CRM_{197}. Process developed for *Paratyphi* A with demonstration of generation of serum bactericidal activity. Preclinical studies on *Shigella* vaccine support plans for vaccine trials.	Develop process for vaccine for nontyphoidal salmonella. Pilot scale GMP manufacture of *Shigella* vaccine.

STAKEHOLDER ENGAGEMENT

Targets 2011	Results 2011	Targets 2012
Further develop links with patient groups in strategic areas for Novartis (MS, COPD, cardiovascular, gout). Support efforts by patient advocates to define disease burden and help improve treatment outcomes. Partner on key global outreach activities.	Published MS Need report in collaboration with EU patient group, discussing need for early diagnosis and management. Updated COPD Uncovered report to raise awareness of COPD in adult working population. Implemented diabetes collaboration with nursing group to drive better availability and quality of nursing care. Hosted first global meeting for gout patient advocates.	Collaborate with key patient groups to spur government and employer action on COPD early diagnosis and treatment. Collaborate with MS groups to improve standards of diagnosis and management of MS. Advocate for, and provide better training for, diabetes nurses. Follow up on agreed actions to consolidate global advocacy initiative for gout patients.

TRANSPARENT REPORTING

Targets 2011	Results 2011	Targets 2012
Release 2010 UNGC Communication on Progress. Release 2010 Novartis GRI report at an application level of A+. Consistently update online Citizenship communications.	2010 UNGC Communication on Progress released in February 2011. Novartis 2010 GRI report received application level A+. New corporate responsibility section published on Novartis corporate website.	Release 2011 UNGC Communication on Progress. Release 2011 Novartis GRI report at a high application level. Consistently update online CSR communications.

For a full list of current Novartis targets and results, please see www.novartis.com/2012targets

Something beyond themselves

KIP ROBINSON: "Barnabas is mentioned in the New Testament, maybe a dozen times. A disciple of Paul, he was a rich guy who was about being a servant, who was providing money to take care of the widows and orphans. He was designated as 'an encourager,' but in some of the extremely poor communities we've been visiting, it's hard to give encouragement. You can be overwhelmed by what you see.

"Each year, our organization, the Friends of Barnabas Foundation, brings 11 medical teams to areas of Honduras that are mountainous and remote. When the teams arrive, everyone in the village comes out, whether they have a malady or not. What's extraordinarily common are bronchial problems, contributed to by the environment, by inhaling smoke all the time, not only from the closed-up kitchens, but from the burning forests and fields. There's lots of diarrhea from bad water, lots of problems with pregnancies, and lots of congenital defects, such as cleft lips and cleft palates, because of the lack of folic acid and prenatal vitamins. Then there are many burned children. A goat will get inside the house and kick at the fire, or kick a child into the fire.

"The World Health Organization statistics state that the Honduran government spends $47 per person per year on health care. In the United States, that number is about $3100, not counting what insurance companies pay. Mothers die in childbirth in the United States at the rate of 11 per 100 000. In Honduras, the number is 280 women. So the disparity in healthcare, you see, is gargantuan.

"If our mountain medical team finds that it can't help with the conditions encountered, we'll find out what care people need then put them in what we call our extended care program. If a child is discovered with heart murmurs, they get an EKG and move on from there. Then we have volunteer surgical groups that come in from the United States and are hoping to have a pediatric cardiac surgeon available all year. We're trying to make this happen.

"Right now, it is so painful to know that while there are 278 children in our heart program, there's only going to be 22 heart surgeries this year, maybe 40 catheterizations. You evaluate the children, choose the ones who are the most bad-off, also the ones that can most benefit from what can be done. I know you can't help everyone, but this can be pretty upsetting. You triage them, and in the process of ranking these kids, some die.

"Truth is, I've been doing this kind of work off and on since 1986 and I'm still not entirely sure I can explain what motivates people, makes them want to help in some way, at some time, with some thing. What I do know is that nothing could be done here without volunteers. On the mission this week, there are 14 volunteers. Seven are doctors or nurses, while Tom worked for a company that made aircraft tires before he retired. Terry is the operations manager for an American restaurant chain. Ronnie builds houses. And all of them have come to understand the transformational experience of doing this work. Their volunteer job is to give of themselves to these people, and suddenly it's not about themselves. Whether they're mixing up medicines, fitting people with eyeglasses, or trying to fix what they find wrong, it's about something beyond themselves."

NEWS IN 2011

Access-to-medicine programs reach more than 89 million patients in 2011 and, together with our R&D institutes for diseases of the developing world, are valued at USD 1.7 billion, or 3% of net sales.

Novartis and collaborators announce discovery of a new dual-acting class of antimalarial compounds called IZPs with potential to both prevent and treat malaria infections. NITD609, another promising antimalarial compound, completes an initial clinical study and begins a Phase II clinical trial.

Novartis continues work to expand access to healthcare in India with addition of *Rabipur* antirabies vaccine to product portfolio of Arogya Parivar, our social business initiative in rural areas, and with Alcon's support of Orbis International's pediatric ophthalmology initiative to create 50 new eye clinics by 2015.

For years surgery was the only treatment option available for patients diagnosed with subependymal giant cell astrocytoma (SEGA), a rare type of brain tumor associated with tuberous sclerosis complex. That changed in September 2011, when European regulatory agencies approved a Novartis medicine known by the common name everolimus, for treatment of SEGA in patients age 3 years and older.

Regulatory approval is a major milestone but further negotiations over pricing and reimbursement with individual European countries are necessary before patients gain broad access to a new drug. Those negotiations can take months – or even years – to conclude.

So-called "expanded access programs" allow companies to offer treatment with an investigational drug outside of a clinical trial for patients who lack satisfactory treatment options.

In collaboration with more than 60 clinics in nine European countries, Novartis has established an expanded access program providing treatment with everolimus at no cost for about 150 SEGA patients until reimbursement talks are completed and the drug becomes commercially available in those countries.

"Through expanded access programs, we are absolutely committed to bridge the gap between regulatory trials and commercial availability of a drug in a given country," said Guido Guidi, M.D., Head Region Europe for Novartis Oncology. "While reimbursement talks are under way, patients find themselves with no treatment options despite approval of a new medicine. Because Novartis medicines often are first-in-class, we feel a particular responsibility to address access issues."

Novartis established an expanded access program for everolimus in a second indication, treatment of pancreatic neuroendocrine tumors. An expanded access program has also been established for another medicine, ruxolitinib, used to treat primary myelofibrosis.

"After completion of two successful Phase III trials early in 2011, we began to hear from physicians in many countries, asking for access to ruxolitinib," said Renaud Capdeville, M.D., Global Program Head for the medicine that is also widely known by the research number INC424.

In an initial step, a "compassionate use" program provided access to ruxolitinib for about 500 patients. During the summer, however, an expanded access program was established to complement the compassionate use initiative.

"The expanded access program is a clinical study with broader scope and more participating centers than the compassionate use program. Physicians enroll patients into the program who receive treatment if they fulfill preset criteria," Dr. Capdeville

said. "It is an opportunity to collect additional data, especially on safety. Physicians who haven't participated in the registration trials learn more about the drug and can improve treatment of this disease that is still not well understood in routine clinical practice."

While it is difficult to predict participation, Dr. Capdeville expects the expanded access program, also known as the JUMP trial, to enroll at least 1 000 patients from hundreds of hospitals around the world. A global initiative, the program is open to patients in all countries except the United States, where Incyte Inc. retains commercial rights to ruxolitinib.

In conjunction with the expanded access programs, Novartis is working with European medical societies and patient advocacy organizations to establish registries for tuberous sclerosis complex, myelodysplastic syndrome and myelofibrotic syndrome.

Hospitals and clinics participating in the expanded access programs are expected to provide data about diagnosis and case management of more than 5 000 patients. All research performed conforms to relevant European Union legislation relating to implementation of good clinical practice, processing of personal data and free movement of such data.

"The idea with the registries is first to identify where the patients are, then to understand their previous clinical history and unmet medical needs," Dr. Guidi explained.

Where possible, Novartis has consulted with patient advocacy groups about design of the registries as well as the expanded access programs. In some cases, initial designs have been modified to enhance access and improve convenience for participating patients.

"By working together with key stakeholders we are able to go beyond the normal role of a company in simply providing a drug," Dr. Guidi said.

ROOM FOR IMPROVEMENT

Novartis has been a leader in the battle against rare cancers for more than a decade. The discovery and development of *Gleevec/Glivec*, a breakthrough treatment against chronic myeloid leukemia and other types of rare cancers, enabled Novartis to pioneer expanded access programs and global patient assistance programs that have helped more than 30 000 patients around the world obtain treatment that they otherwise would not have been able to afford.

The commitment to chronic myeloid leukemia and other rare cancers also led to development of *Tasigna*, a successor medicine from Novartis. Though initially approved for treatment of patients resistant to *Gleevec/Glivec*, *Tasigna* is currently an option for all chronic myeloid leukemia patients. Clinical studies have demonstrated that compared with *Gleevec/Glivec*, *Tasigna* produces faster, deeper and more durable molecular responses.

In collaboration with Novartis, the European LeukemiaNet, an academic network comprising 175 cancer centers in 33 countries, has launched the European Treatment Outcomes Study (EUTOS). The initiative aims for further improvements in the treatment of chronic myeloid leukemia. The vision of EUTOS is that there may come a day when a significant proportion of patients could ultimately discontinue therapy and remain in deep molecular remission.

Results of the ENESTnd Phase III trial comparing *Gleevec/Glivec* and *Tasigna* supported that vision. In a paper published in the medical journal *Lancet Oncology*, ENESTnd investigators recommended further study of the possibility that patients who achieve long-term molecular remissions might be able to safely discontinue therapy. "Proof-of-concept studies have been undertaken with [*Gleevec/Glivec*] demonstrating that treatment cessation is possible in a minority of highly selected patients with durable molecular remissions," the authors wrote. "Future studies investigating the discontinuation of [*Tasigna*] therapy in patients achieving durable molecular remission is an important next step."

"It may sound a little strange for a healthcare company like Novartis to work together with physicians with the ultimate aim of halting treatment with a drug we are selling," Dr. Guidi said. "But it is a new way of doing business – and a vision we hope to achieve for as many of our drugs as we can."

MONITORING OUTCOMES

Inaugurated in 2007, EUTOS has focused on improving diagnosis and treatment through standardized evaluation and monitoring of chronic myeloid leukemia. For example, data from a patient registry established by EUTOS have helped to create a new, standardized risk score.

In a paper published in the journal *Blood*, a working group presented data showing the new EUTOS score had better predictive power than two other scores previously used by physicians.

Under the EUTOS program, participating physicians are offered plasma level monitoring across Europe. A central facility in Bordeaux, France, is coordinating certification of laboratories based on a common protocol.

Molecular monitoring based on polymerase chain reaction technology (PCR) is the most sensitive and accurate currently available. The EUTOS program provides standardized PCR testing, and more than 50 molecular monitoring laboratories in 28 countries are cooperating under the EUTOS program to minimize inter-lab variation.

"We create a robust environment to collect information about the disease and what really matters for the patient," Dr. Guidi said. "We bring clinicians and patients on board for this discussion and then make it clear how we hope to influence outcomes. It is a holistic and comprehensive approach."

NEWS IN 2011

Be Healthy, a Group-wide initiative providing opportunities for affiliate associates to take control of their personal health, launches at 76 sites globally.

Novartis conducts second Group-wide Global Employee Survey; strong, 88% response rate demonstrates a shared commitment to making Novartis an even better place to work.

Novartis Institutes for BioMedical Research hold inaugural Health Equity Symposium that explores biological foundations of health disparity and steps to refocus healthcare research to address these disparities.

Be Healthy is a Group-wide initiative launched during 2011 to help associates at Novartis Group companies around the world embrace healthy lifestyles.

Participation is voluntary: Associates are encouraged to take control of their personal health at work as well as in their private lives. Be Healthy places a particular focus on prevention activities. The initiative includes healthy living and screening activities, as well as support for associates with disabilities or illnesses to help them maintain or regain their ability to perform at home and at work.

"Novartis is a healthcare company, and I feel a great responsibility to offer all Novartis Group company associates the tools they need to live healthy lives," said Joseph Jimenez, Chief Executive Officer of Novartis and member of the Executive Committee of Novartis. "We all know that we should have regular physical activity every single day, so I am encouraging all the participating sites to provide access to a gym either on site or nearby and grant discounts or subsidies to all associates so they can afford membership."

"I'd also like to offer every associate the opportunity to make informed choices about eating healthier at home or at Novartis," he added. "We are asking cafeterias at our company sites to provide a healthy meal every day that is the lowest priced option on the menu. We also are encouraging healthier food at Novartis-sponsored events."

Sites provide free annual screening for blood pressure, cholesterol and other key health indicators, enabling associates to "know their numbers" and identify occasions when they may want to seek medical attention. The initial launch in 2011 included 76 of the largest sites, representing about 80% of associates worldwide, and an additional 88 sites will introduce Be Healthy during 2012.

Be Healthy builds on a long tradition of health and well-being programs for associates. Importantly, Be Healthy is the first global health initiative at Novartis, ensuring all Group company associates have access to a recommended level of activities and opportunities to take a proactive approach to lifestyle.

Local programs cover four pillars – move, or physical exercise; choose, eating healthy at home and at work; know, monitoring key health indicators; and manage, providing support such as personalized plans so that associates can return to work and perform in an environment that enables them to contribute optimally after an absence due to an illness or injury.

During 2011, thousands of associates and family members took part in health promotion activities at all major Novartis

sites including Group headquarters in Basel, Switzerland. Programs offered there ranged from free flu vaccinations and cholesterol, blood pressure and blood sugar screenings to hearing and vision testing. Smoking cessation programs so far show promising results: 41% of participants remain smoke-free after six months.

At global headquarters of the Sandoz Division, in Holzkirchen, Germany, more than 2 000 associates have been screened for skin cancer during the past two years.

Novartis Canada offers subsidized meals with healthy menu choices and reduced salt content. Weekly "weight watchers at work" meetings include free consultations with dietitians.

Be Healthy aims to foster local initiatives. "Being healthy doesn't always mean making drastic changes in lifestyle," Mr. Jimenez said. "Even little things like walking up stairs can add up to a big difference in overall health."

FOCUS ON EMERGING MARKETS

Underscoring the strategic importance of emerging markets, Novartis maintained a strong focus during 2011 on career development of associates in key emerging markets. During the year, more than 3 000 associates attended development programs at the Novartis China University and the Novartis Business Academy in Russia.

A program sponsored by Mr. Jimenez called LEAD was introduced to complement existing leadership development activities in emerging markets. LEAD offers participants varied learning opportunities over 12 months, including multiple sessions of experience-based learning with senior Group executives including Novartis Chairman Daniel Vasella, Mr. Jimenez and other members of the Executive Committee of Novartis.

A separate initiative, BOOST, supports associates from emerging markets during their stay at Group headquarters in Basel. BOOST connects participants with mentors, and provides introductions to members of senior management and targeted learning experiences to support career development and success in their roles.

"Moving to a new country and taking on a new role is rewarding," said Juergen Brokatzky-Geiger, Ph.D., Head of Human Resources and member of the Executive Committee of Novartis. "But the transition can be challenging, which is why we created BOOST. The program delivers twin benefits: personal development for individual associates and greater diversity of candidates for internal roles across Novartis."

ASSOCIATES BY REGION AND SEGMENT AS OF DECEMBER 31[1]

	United States		Canada and Latin America		Europe		Asia/Africa/ Australasia		Total	
	2011	2010	**2011**	2010	**2011**	2010	**2011**	2010	**2011**	2010
Pharmaceuticals	12 869	13 704	4 557	4 390	26 338	26 275	16 763	15 040	60 527	59 409
Alcon	9 347	9 175	1 794	2 033	7 410	6 704	4 436	4 196	22 987	22 108
Sandoz	1 442	1 349	2 532	2 427	15 595	15 308	4 808	4 452	24 377	23 536
Vaccines and Diagnostics	1 530	1 394	114	83	3 676	3 604	802	313	6 122	5 394
Consumer Health	1 797	1 731	890	737	3 567	3 432	2 036	1 828	8 290	7 728
Shared services	124	117	25	23	281	268	52	50	482	458
Corporate	133	117	25	21	686	599	57	48	901	785
Total	**27 242**	**27 587**	**9 937**	**9 714**	**57 553**	**56 190**	**28 954**	**25 927**	**123 686**	**119 418**

[1] Full-time equivalent positions. 2010 segments restated to reflect the new segment allocation introduced during 2011 as explained in detail on page 159.

The villages miles away

SHIWAGA HAGOS: "When I was a young girl, I had a sister who was pregnant. She accidentally died and nobody really knew the reason why. Now I think that this is what motivated me to want to do this work. At one time I had thought about being a doctor, but didn't have the grades in secondary school to continue. Then I joined this program. In order to qualify, you undertake a course of studies for one year, receive on-the-job training, then later, refresher courses so that we won't forget what we've learned.

"I have been a health extension worker for six years now, which means I work to solve people's health problems. I work in the clinic two days a week, but most of the time I visit patients in their villages, which can be miles away. We walk in order to get there, sometimes for 30 minutes, sometimes three hours. In the beginning it wasn't always easy. It happened that one day I saw a baby being delivered. There was so much bleeding that it shocked me. I didn't eat for two days. But since then I have assisted in 18 home deliveries. We encourage mothers to come to the health center to have their babies, but sometimes they can't get there. In the time that we've been doing this work, we've managed to decrease the deaths of pregnant mothers and their babies.

"But not everything works out. Once I traveled to a village to work with a mother who had HIV. I took the best care of the child that I could, brought the child food, fed her, so that at times I felt like she was my daughter. But still she got sicker and passed away. I was badly hurt by this situation, full of doubts about what I can do. The baby was just eight months old.

"Now, each health extension worker visits 45 patients a week, and serves many functions. We do inoculations and distribute information about family health. Before they started this program, families would regularly have more than seven children. We're teaching people how to use contraceptives, as well as other methods of family planning, and the birth rate is dropping. Still, testing for malaria is a big part of what we do.

"When I meet a patient for the first time at the health clinic, I take a medical history. I ask her how she is feeling and where she is living, and if it's in a swampy area with a lot of mosquitoes, does she use nets. Then I give her a test, which identifies suspicious malaria, whether it is *Plasmodium vivax* or *Plasmodium falciparum*. Some years back, people in the villages would never allow these tests. Even though we told them it was for malaria, they felt suspicious, that we were going to check their blood for HIV. Now everyone is willing for us to do a check of either malaria or HIV. We have brought lots of awareness."

NEWS IN 2011

United Nations Framework Convention on Climate Change approves Novartis carbon-offset project in Argentina under the UN Clean Development Mechanism, with more than 3 million trees planted.

Novartis begins planting for additional carbon-offset project in the Sichuan region of China. Novartis and collaborators including the Nature Conservancy plan to plant 10 million saplings on 3 900 hectares by 2015.

Novartis Energy Excellence Awards recognize projects that help reduce our carbon footprint. Of 124 projects submitted in 2011, 57 have already achieved annual savings of more than USD 11 million, or 3% of Novartis total annual energy costs.

An important facet of the integration of Alcon, Inc. within Novartis was the enhancement of global health, safety and environmental programs. Activities initiated during 2011 accentuated a trend of declining injury rates at Alcon in recent years. Alcon's legacy businesses reported their lowest accident rates ever during 2011, and current projections indicate Alcon could reach the Novartis Group lost-time injury and illness rate (LTIR) by 2015.

It isn't the first time a new addition to the Novartis Group achieved significant, sustained improvement in safety. Both Hexal AG and Chiron Inc. achieved significant, sustained reductions in LTIR after being acquired by Novartis. Hexal lowered its LTIR from 1.51 injuries per 200 000 hours worked in 2005 to 0.11 in 2010. LTIR in operations of the former Chiron fell from 0.76 accidents per 200 000 hours worked in 2007 to 0.17 in 2010.

This mirrors sustained improvement in safety by Novartis. Group-wide LTIR declined from 0.51 accidents per 200 000 hours worked in 2005 to 0.18 in 2010. "That may not sound like much. But it translates into hundreds of associates who would have had accidents had we not achieved this substantial ongoing improvement in safety," said Keith Saveal, Head Corporate Health, Safety, Environment and Business Continuity at Novartis.

"We have a very systemic approach to health, safety and the environment, with rigorous measurement and reporting, and strong programs in place to maintain a high level of awareness about safety. Moreover, we don't just wait for accidents to happen – our managers track many leading indicators to help prevent accidents from happening in the first place. We have made significant progress over the past five years and we can transfer that knowledge to Alcon."

Working closely with peers from the new Alcon Division, Mr. Saveal and his team produced a detailed integration plan for health, safety and environment that identified potential areas for improvement. For example, injury and illness reporting at the former Alcon was limited to manufacturing sites, research and development, the US sales force and US headquarters operations. Novartis tracks LTIR at all locations worldwide.

During 2011, the Alcon Division expanded its reporting coverage to 95% of associates, from 63% prior to joining Novartis. "We aim to include small distribution centers and other operations at the Alcon Division to approach 100% in 2012," Mr. Saveal said.

Transparency is another hallmark of Novartis safety and environmental reporting. While the former Alcon collected and reported that data internally, the results weren't communicated externally. Data for the Alcon legacy businesses is reported by Novartis in this year's annual report.

In 2010, Alcon managers adopted proactive reporting practices introduced by Novartis in recent years. Site managers send personal emails to their respective division heads,

NOVARTIS HEALTH, SAFETY AND ENVIRONMENT (HSE) DATA 2011

	Novartis Group[1]		Pharmaceuticals		NIBR		Sandoz		Vaccines and Diagnostics		Consumer Health[2]		Alcon[3]
	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
HSE personnel	**442**	435	**208**	195	**26**	22	**124**	129	**26**	28	**47**	50	**39**
Lost-time injury and illness rate (LTIR)	**0.15**	0.18	**0.13**	0.20	**0.09**	0.16	**0.18**	0.19	**0.17**	0.17	**0.17**	0.13	**0.45**
Total recordable case rate	**0.54**	0.73	**0.53**	0.81	**0.57**	0.68	**0.52**	0.64	**0.48**	0.43	**0.44**	0.74	**1.04**
Total production (1000 t)	**174**	168	**25**	25	**0**	0	**86**	87	**0.3**	0.4	**63**	56	**45**
Contact water use (million m^3)	**16.0**	15.1	**4.1**	4.1	**0.6**	0.6	**8.7**	7.8	**1.0**	1.0	**1.6**	1.6	**1.6**
Energy use (million GJ)	**17.4**	17.6	**5.5**	5.6	**1.3**	1.3	**7.6**	7.7	**1.5**	1.4	**1.5**	1.5	**2.0**
Emissions													
Effluent discharge (million m^3)	**16.9**	15.9	**4.1**	4.3	**0.6**	0.6	**8.6**	7.8	**1.1**	1.0	**2.5**	2.2	**1.4**
COD into water (1000 t)	**3.9**	3.6	**0.7**	0.8	**0.0**	0.0	**3.1**	2.8	**0.0**	0.0	**0.1**	0.1	**0.0**
Sulfur dioxide SO_2 (t)	**76**	82	**4.4**	7.3	**0.5**	0.5	**69**	72	**0.1**	0.1	**0.5**	1.5	**0.7**
Nitrogen oxide NO_2 (t)	**288**	313	**103**	113	**10**	12	**140**	141	**11**	24	**23**	22	**38**
Halogenated VOCs (t)	**136**	244	**1.6**	2.1	**6.8**	6.9	**128**	235	**0.0**	0.0	**0.0**	0.0	**0.0**
Non-halogenated VOCs (t)	**1 050**	1 277	**217**	247	**25**	26	**722**	925	**1.2**	1.9	**84**	78	**21**
GHG Scope 1, combustion and process (1000 t)	**414**	418	**139**	143	**17**	18	**189**	190	**37**	38	**32**	28	**49**
GHG Scope 1, vehicles (1000 t)	**155**	168	**103**	120	**0.1**	0.2	**27**	25	**4.5**	4.6	**14**	13	**41**
GHG Scope 2, purchased energy (1000 t)	**890**	922	**224**	235	**81**	84	**354**	381	**91**	81	**139**	140	**165**
Operational waste													
Non-hazardous waste not recycled (1000 t)	**47**	58	**7.4**	7.1	**1.6**	1.8	**9.3**	7.9	**23**	35	**6.5**	6.1	**3.4**
Hazardous waste not recycled (1000 t)	**95**	96	**64**	65	**1.2**	1.4	**25**	26	**1.3**	1.2	**2.4**	2.7	**0.7**
Non-hazardous waste recycled (1000 t)	**39**	36	**11**	11	**1.4**	1.3	**16**	15	**1.9**	2.2	**8.2**	7.0	**6.7**
Hazardous waste recycled (1000 t)	**90**	89	**20**	38	**0.0**	0.0	**67**	51	**0.1**	0.2	**2.5**	0.2	**0.0**

[1] Novartis Group includes Novartis Corporate; Alcon is not included.
[2] Consumer Health data include Animal Health, CIBA Vision and OTC.
[3] Data from newly acquired Alcon sites, excluding CIBA Vision; Alcon data only available for 2011.

reporting each lost time accident during the year. In addition, executive committee members receive quarterly updates on safety performance, along with general managers of the 10 worst-performing country organizations.

During 2012, accident reduction will remain a priority for the new Alcon division. For all the improvement during 2011, Alcon's LTIR at 0.45 accidents per 200 000 hours worked remains well above the Novartis figure of 0.15.

STRINGENT REQUIREMENTS

Also, the integration program identified areas where Novartis could learn from Alcon. "Alcon has done some great work on packaging, reducing carton size and the amount of cardboard consumed," Mr. Saveal said.

"It is something we are working on at Novartis but Alcon was already a few years down the road. Sustainable packaging is like energy conservation. We can save money as well as make a small contribution toward saving the planet through responsible stewardship of natural resources."

Regulation of healthcare products – and prescription medicines in particular – imposes stringent requirements on integrity and security of packaging. That includes information that must be conveyed to patients as well as protection from deterioration and misuse. Yet innovative packaging designs that optimally meet the needs of users, together with use of new materials from renewable resources, could pave the way to informed selection of raw materials, diminish package size and minimize consumption of resources with minimal additional cost.

COMMITMENT TO ETHICAL BUSINESS CONDUCT

NEWS IN 2011

Novartis revises its Code of Conduct to address evolving business landscape. Updated Code is principle-based, focusing on standards for ethical conduct beyond narrow legal definitions.

Business Practices Office (BPO) provides formal system for dealing with complaints of actual or suspected cases of misconduct. During 2011, BPO receives 1 522 complaints that become investigations.

Novartis again achieves top ratings in corporate responsibility and industry rankings, including number one pharmaceutical company in *Fortune*'s list of "World's Most Admired Companies," *MedAdNews*' "Most Admired Pharmaceutical Company," and *Scrip*'s "Pharma Company of the Year." Novartis also receives SAM Gold Class Award, and is included in STOXX Global ESG Leaders indices, FTSE4Good Index and Ethibel Excellence Investment Register.

As founding member of consortium WIPO Re:Search, Novartis voluntarily provides intellectual property and expertise under royalty-free licenses to qualified researchers worldwide focusing on neglected tropical diseases. The World Intellectual Property Organization (WIPO) sponsors the consortium, which includes pharmaceutical companies, leading research institutions and NGOs.

Supreme Court of India holds preliminary hearing on the *Glivec* patent case in October and schedules full hearing for February 2012. Through this case, Novartis seeks clarity on the patent system in India to prioritize research investments. More than 45 countries, including Russia, China and Taiwan, have recognized the patentable breakthrough innovation associated with *Glivec*.

During 2011 the Novartis Board of Directors approved a revised Code of Conduct that takes effect January 1, 2012.

The Code of Conduct is a cornerstone of ethical business conduct that reinforces responsible decision making as an essential part of the way Novartis Group company associates think and do business. The Code of Conduct is an integral part of the employment contract of every associate worldwide. Breaches of the Code of Conduct can lead to disciplinary action, including termination.

Importantly, the Code of Conduct helps to enhance engagement of associates and serves as a potent recruiting tool for Novartis. "We know that associates are really motivated by ethical business behavior," said Peter Kornicker, Chief Compliance Officer at Novartis.

The previous Code of Conduct originally dated from 1999 and was updated in 2001 in conjunction with the commitment by Novartis to the United Nations Global Compact, the world's largest corporate citizenship initiative. "A strong Code of Conduct should reflect and adapt to the business environment, and it is best practice to review and upgrade the Code of Conduct regularly," Mr. Kornicker added.

International corporations like Novartis face a demanding compliance environment today, including new laws and regulations as well as increased scrutiny and enforcement by authorities. The new Code of Conduct is an essential point of reference for all associates, and establishes a common set of standards that apply throughout the world. The revised text is shorter, with simpler language than the previous version. "You can't expect every associate to be a legal expert," Mr. Kornicker said. "We need to work with general principles and also provide guidance to help associates make decisions in cases where they are in doubt."

The most significant change to the Code of Conduct is the commitment by Novartis to five stakeholder groups: patients, associates, shareholders, healthcare partners and

society at large. The document now clearly articulates principles and standards of business conduct that apply to these groups who make decisions and take actions that impact the success of Novartis.

Still, the Code of Conduct is directed first and foremost to associates. The new version enshrines the core principle of performance assessment at Novartis: The way business results are achieved is as important as the achievement itself. Each associate's annual performance is measured against a written set of objectives together with an appraisal of an individual's values and behaviors.

Diversity and inclusion is also addressed in the new Code of Conduct. "We say that diversity and inclusion, and an inclusive mindset are important to us," Mr. Kornicker added. "It doesn't matter if that is actually specified in local law or not. This is how we do it at Novartis." A section on bribery is another example where the Code of Conduct takes a more stringent position than local law in some parts of the world. "Many countries prohibit bribery of public officials, and a number of other counties also prohibit bribing private persons," Mr. Kornicker explained. "In the Code of Conduct we say Novartis does not tolerate any form of bribery."

"The Code of Conduct is an excellent platform from which to discuss ethical business behavior in a broader context," Mr. Kornicker added. "From the perspective of individual associates and the organization – and the important role of Novartis leaders in fostering integrity and compliance – it is not something that just happens; it needs a positive environment. Obviously the best solution for misconduct is prevention."

To that end, the revised Code of Conduct underscores the crucial role of the Business Practices Office (BPO), the global framework for reporting and investigation of misconduct. Under the Code of Conduct, associates are obliged to bring actual or suspected misconduct to the attention of the company through a defined reporting process. Associates who report potential misconduct or assist in any inquiry or investigation will be protected against retaliatory action.

The BPO provides opportunities to report incidents of misconduct in person, by letter, email, and integrity telephone and Web-based hotlines in 91 countries and 55 languages. All complaints are investigated professionally, and the results of investigations are shared with the appropriate management.

"We work across the entire spectrum – from information and training programs to increase awareness and engagement among associates, to the BPO framework," Mr. Kornicker said. "We don't hide the fact that disciplinary sanctions are necessary. Every year individuals make poor choices, and we are disappointed when we have to terminate associates. But we will not tolerate misconduct," he added.

"We trust our managers to manage many different risks – financial risks, product risks and people risks. It is essential that we hold our managers responsible for managing compliance risks as an integral part of the business."

FURTHER INFORMATION

Topic	Website information
OVERVIEW	
Corporate Citizenship at Novartis	www.novartis.com/corporate-responsibility
Corporate Citizenship targets and results	www.novartis.com/targets2012
Perspectives on key issues	www.novartis.com/key-issues
UN Global Compact	www.novartis.com/un-global-compact
Global Reporting Initiative (GRI)	www.novartis.com/gri-report
COMMITMENT TO PATIENTS	
Overview: patient initiatives	www.novartis.com/access
Novartis Malaria Initiative	www.malaria.novartis.com
Novartis Foundation for Sustainable Development (NFSD)	www.novartisfoundation.org
Novartis Institute for Tropical Diseases (NITD)	www.novartis.com/nitd
Novartis Vaccines Institute for Global Health (NVGH)	www.novartis.com/nvgh
COMMITMENT TO PEOPLE AND COMMUNITIES	
Diversity and Inclusion	www.novartis.com/diversity-inclusion
Be Healthy: associate health and well-being initiative	www.novartis.com/be-healthy
COMMITMENT TO ENVIRONMENT	
Overview: HSE performance	www.novartis.com/environmental-care
COMMITMENT TO ETHICAL BUSINESS CONDUCT	
Overview: ethical business conduct	www.novartis.com/business-conduct
Novartis Code of Conduct	www.novartis.com/code-of-conduct

INDEPENDENT ASSURANCE REPORT ON THE NOVARTIS CORPORATE CITIZENSHIP REPORTING

To the Audit and Compliance Committee of the Board of Directors of Novartis AG, Basel
We have performed assurance procedures to provide limited assurance on the following aspects of the 2011 Corporate Citizenship (CC) reporting of Novartis AG and its consolidated subsidiaries (Novartis Group).

SUBJECT MATTER

The subject of our assurance procedures related to the data and information disclosed in the consolidated CC reporting of Novartis Group for the year ended December 31, 2011 was limited to the following:

- Reporting processes with respect to the CC reporting and CC key figures as well as the related control environment in relation to data aggregation of CC key figures.
- CC key performance indicators on page 61, the "Novartis access-to-medicine projects 2011" figures on page 65 and the "Novartis Health, Safety and Environment (HSE) Data 2011" on page 77 as published in the "Novartis Annual Report 2011" (CC indicators).

CRITERIA

The management reporting processes with respect to the CC reporting and CC key figures were assessed against Novartis Group internal policies and procedures, as set forth in the following:

- CC Policy including CC Guidelines and the Code of Conduct.
- Procedures, by which CC and Health, Safety and Environment (HSE) data is gathered, collated and aggregated internally.

RESPONSIBILITY AND LIMITATIONS

The accuracy and completeness of CC indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our Assurance Report should therefore be read in connection with Novartis Group guidelines, definitions and procedures on the reporting of its CC performance.

The Board of Directors of Novartis AG is responsible for preparation and reporting of CC information. Our responsibility is to provide a conclusion on the results of our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000.

ASSURANCE PROCEDURES

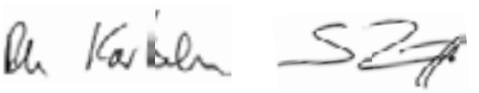
Our assurance procedures included the following:

- **Evaluation of the application of Group guidelines**
  Reviewing application of the Novartis Group internal CC reporting guidelines.
- **Management inquiry**
  Interviewing personnel responsible for internal reporting and data collection at Group level.
- **Site visits**
  Visiting selected country headquarters and specific sites in Austria, India, Singapore, Slovenia, the United Kingdom and the United States. The selection was based on quantitative and qualitative criteria.
- **Assessment of key figures**
  Performing tests on a sample basis of evidence supporting selected HSE data concerning completeness, accuracy, adequacy and consistency.
- **Inspection of documentation and analysis of relevant policies and principles**
  Inspecting relevant documentation on a sample basis, including Group CC policies, management reporting structures and documentation.
- **Assessment of the processes and data consolidation**
  Reviewing the management reporting processes for CC reporting and assessing the consolidation process of data at Group level.

CONCLUSIONS

Based on our work described in this report, nothing has come to our attention that causes us to believe that the data and information outlined in the subject matter as defined above and disclosed in the Corporate Citizenship reporting has not been prepared in accordance with Novartis Group internal policies and procedures.

PricewaterhouseCoopers AG



Peter M. Kartscher Stefan Rüegg

Basel, January 24, 2012

The lives of other people

ZHENGCHEN LIU: "At the beginning, there was a symptom of eye bleeding. When I was reading, there was a dot in the center of the page, the center of my eyesight. But my problem didn't originate from my eyes. After a lot of physical examinations, I was told the number of white cells in my blood should be four to 10. My number was 430. Pretty high, pretty high. The doctor said there could be many reasons for this. 'You might have caught a big cold, or,' he went on, 'you may have leukemia.' And I knew I didn't have a cold.

"I don't remember getting very upset until my parents came to the hospital the next morning. Then my tears ran. Suddenly faced with an uncertain future, every little thing seemed different, more important, from turning on the tap to washing my face to brushing my teeth. In China, you see, leukemia is perhaps a more feared word than cancer. People are terrified by leukemia, believing if you have a tumor, and remove it, you can get well. With leukemia, you might need a transplant, or very expensive medicine. Whatever is needed, it's not so simple. I personally believed leukemia would wholly affect my economic life, relationships, what I was doing at the university. I was majoring in management. After graduation, people go to banks, into the investment field, earn lots of money. Now there were questions whether I could find a job. Then there was my girlfriend at the time. She came from a province in China where the tradition is that the daughter should marry very successfully, marry a wealthy businessman. It's not that my girlfriend's family was wealthy, but that's the tradition. So she had to break up with me. The mother makes this decision and the daughter has to obey.

"Remembering back, it was just a month after my diagnosis that I established the Sunshine Bone Marrow Registry, though the truth is

that my original motivation for starting this organization was that I thought I could save myself. Doctors had led me to believe at first that the only hope I had to survive was a bone marrow transplant operation. But I had no proper donor. I had hoped that my mother and father's bone marrow was possible, but it turned out this wasn't a good choice for me.

"At the time it was begun, the organization was a student organization, like a student union, that we ran in our spare time. Today I would describe New Sunshine as a charitable foundation fighting leukemia. We have the bone marrow donor registry – so there are now two of them in China – a trained staff, and hundreds of volunteers, who provide all kinds of support for child and adult leukemia patients. Once I didn't know how to do anything, but even now running this organization can be stressful. I've learned how to keep calm, to handle my emotions when visiting patients, feeling the ups and downs, but I still get depressed. There are so many of them and we can't help them all.

"The only way I know that you can live any kind of good life when you have this disease is by making constant adjustments to your expectations, to yourself. Yesterday was what's known as Children's Day in China. We visited the children's wards to give out gifts. Three days ago I was waiting for my latest bone marrow test results. Every day is different."

ANONYMOUS PATIENT: "Before my diagnosis I thought my life would be like this: getting a degree, having a baby, living a very normal family life, writing some articles to get published, becoming a professor. Then three years ago I was diagnosed with chronic myeloid leukemia (CML). Suddenly, everything changes, and most of the changes are emotional. I had been married five years. My husband wants to have a baby, but I don't think it's the right time to have a baby now. Baby-wise, I know you have to be in deep remission before you can risk stopping the medicine I have to take. On top of this, I didn't tell my mother-in-law or sister-in-law about my illness. Even now my husband still keeps it a secret. I

guess he doesn't want to hurt his mother's feelings, knowing she might be afraid of not having a grandchild. And though both my husband and I have graduated from the best university in China and both of us have good jobs, she might be afraid of how other people might look at me and, in turn, at her.

"So there is bias. But where I work now, people are open-minded. They don't look at me differently. Well, looking at someone differently can be divided into two different attitudes. The first is feeling sad for a person. The second is looking down on them. Feeling sad is reasonable. You can't expect someone to feel happy for you if they know you have leukemia.

"Today my life is more under control, more stable than it was. I must take regular tests and sometimes I feel, well, not so right. I am not any longer going for my Ph.D., but I am not inactive. I teach part time, then I work as a volunteer at the Beijing People's Hospital, for Professor Qian Jiang. You know, so many people from around the country come to see her. They start coming at 6 in the morning, though the clinic doesn't open until 8. The doctor then sees 50 to 60 patients during the day. I've watched her working and she can be in an awful hurry, but patients do well under her care. She is getting more and more famous and is, I believe, the best, most expert person on CML in this country.

"Sometimes my job here is to put the results of the tests that have been done onto paper and in envelopes, and sometimes I have to keep the crowds away from the door. Once, when I saw people who needed the doctor's help kneel down before her, I would feel sad. On the other hand, you come to feel that compared with the lives of the people in front of you, your own life is acceptable. You need to enjoy your life."

CORPORATE GOVERNANCE REPORT

Novartis strives to create sustainable value. Our corporate governance framework is designed to support this. While it complies with all applicable laws and implements best corporate governance standards, it is tailor-made for Novartis.

CONTENTS

INTRODUCTION

The corporate governance framework of Novartis reflects a system of checks and balances between the powers of the shareholders, the Board of Directors and the management with the goal to safeguard the interests of Novartis and its shareholders while creating sustainable value.

Since the creation of Novartis in 1996, the Board of Directors has continuously improved the corporate governance framework of Novartis by proactively implementing emerging best corporate governance standards long before these were embedded in the Swiss Code of Best Practice for Corporate Governance ("the Swiss Code") or in the law.

In 1999, Novartis established the new position of Lead Director as a check and balance following the election of Chief Executive Officer Daniel Vasella, M.D., to the additional post of Chairman. Moreover, three new Board committees – the Compensation Committee, the Audit and Compliance Committee and the Corporate Governance and Nomination Committee – were created, composed exclusively of independent Board members.

In 2002, five years before legislation came into force in 2007, requiring companies to disclose the total compensation of their executive management group as well as the highest compensation attributed to a member of the executive management, Novartis had already implemented even more rigorous disclosure standards by reporting the individual annual compensation of all members of the Executive Committee.

In 2004, two years earlier than required for non-US corporations, Novartis complied with the challenging certification requirements under the US Sarbanes-Oxley Act, in particular Section 404 of this Act.

In 2009, the Board of Directors established a new Risk Committee that oversees the Group's enterprise risk management, strengthening the Board of Directors' supervisory function over management in this critical area. While fostering a culture of risk-adjusted decision making, the Risk Committee ensures that reasonable risk-taking and innovation are not constrained.

In 2010, the Chairman and CEO functions were separated. In addition several emerging best corporate governance standards were proactively implemented, including the introduction of a "say-on-pay" shareholder vote, making changes to our executive compensation system to further strengthen the alignment of incentives with the long-term success of Novartis and a number of new disclosures, including on qualifications of Board members.

In 2011, the first "say-on-pay" vote was held, where the shareholders endorsed the compensation system of Novartis.

Novartis evaluates emerging best governance standards and adopts those that are found to be appropriate for Novartis. These standards are then tailored to Novartis, its business, management, stakeholders and shareholders with a view to create a corporate governance regime that supports the creation of sustainable value. This cannot be achieved by implementing corporate governance standards "as is" ("one size fits all approach") and becomes impossible if corporate governance standards (embedded in corporate governance codes) are converted into binding, "one size fits all" rules as is currently contemplated in Switzerland.

In Switzerland, Parliament considers introducing binding, "one size fits all" rules such as a binding shareholder vote on executive compensation and a ban on sign-on bonuses. Such rules would eliminate the flexibility of issuers to adapt corporate governance recommendations to the specific circumstances and needs of each individual company. Moreover, if such rules were introduced, Switzerland would get a corporate governance regime that would be substantially more restrictive than that of other countries. Such binding corporate governance rules are not needed. The "market" (corporate governance rating agencies, proxy voting agencies, institutional investors, Stock Exchanges) already plays a very effective role in deciding whether a given explanation is sufficient and plausible or not.

We note however an encouraging development in that regulators start to acknowledge and seem to become willing to regulate many corporate governance issues that have been highlighted by issuers for a long time but did not make it "on the corporate governance agenda" yet: In 2010, the US Securities Exchange Commission in its "Concept Release on the U.S. Proxy System" and, in 2011, the European Commission in its green paper entitled "The EU Corporate Governance Framework" have noted a number of such issues, including deficiencies in the proxy system, potential conflicts of interest and a lack of accuracy and transparency of proxy advisory firms, and what the European Commission called "inappropriate short-termism among investors." On that last point, we note that the UK government commissioned a review (*"The Kay Review"*) on whether the time horizons of investors match those of their principals and whether equity markets and government policies promote long-term horizons of institutional shareholders and fund managers and sufficiently encourage boards to have a long-term horizon.

At the heart of good corporate governance lies a strong Board of Directors, which represents the interests of the shareholders and other stakeholders, and the professionalism and integrity of management, creating the foundation for sustainable value. While the size, composition and structure of the Board of Directors are easy to describe and can be easily checked from the outside, it is difficult to demonstrate that the core processes, like information flow and decision making, are state-of-the-art. It is even more difficult, if not impossible, to describe the prevailing board culture, although the latter is essential for its effective function. Novartis aims to foster an atmosphere in which Board members can pose challenging

questions, voice dissenting views and secure access to independent information through extensive contacts with senior Novartis executives – inside and outside the boardroom. Diversity of a Board of Directors is a critical success factor for its work. The Novartis Board of Directors today is diverse in terms of background, interests and skills.

OUR CORPORATE GOVERNANCE FRAMEWORK

LAWS AND REGULATIONS

Novartis is subject to the laws of Switzerland, in particular Swiss company and securities laws, and to the securities laws of the United States as applicable to foreign private issuers of securities.

In addition, Novartis is subject to the rules of the Swiss Stock Exchange (SIX Swiss Exchange), including the Directive on Information relating to Corporate Governance.

Novartis is also subject to the rules of the New York Stock Exchange (NYSE) as applicable to foreign private issuers of securities. The NYSE requires Novartis to describe any material ways in which its corporate governance differs from that of domestic US companies listed on the NYSE. Different from corporate governance rules applicable to domestic US companies listed on NYSE, shareholders of Novartis do not receive written reports from committees of the Board of Directors. Also, the external auditors are appointed by our shareholders at the Annual General Meeting, as opposed to being appointed by the Audit and Compliance Committee. In addition, while our shareholders cannot vote on all equity-compensation plans, they are entitled to hold a consultative vote on the compensation system of Novartis. The vote takes place before every significant change to the compensation system, but at least every third Annual General Meeting. Finally, our Board of Directors has set up a separate Risk Committee that is responsible for risk oversight, as opposed to delegating this responsibility to the Audit and Compliance Committee.

SWISS CODE OF BEST PRACTICE FOR CORPORATE GOVERNANCE

Novartis applies the Swiss Code of Best Practice for Corporate Governance.

NOVARTIS CORPORATE GOVERNANCE STANDARDS

Novartis has incorporated the corporate governance standards described above into the Articles of Incorporation and the Regulations of the Board of Directors, its Committees and the Executive Committee (www.novartis.com/corporate-governance).

The Corporate Governance and Nomination Committee regularly reviews these standards and principles in the light of prevailing best practices and makes recommendations for improvements of the corporate governance framework of Novartis for consideration by the full Board of Directors.

Additional corporate governance information can be found on the Novartis website: http://www.novartis.com/corporate-governance

Printed copies of the Novartis Articles of Incorporation, Regulations of the Board and Charters of Board Committees can be obtained by writing to: Novartis AG, Attn: Corporate Secretary, Lichtstrasse 35, CH-4056 Basel, Switzerland.

OUR SHAREHOLDERS

SHARES

SHARE CAPITAL OF NOVARTIS AG

The share capital of Novartis AG is CHF 1 372 811 500, fully paid-in and divided into CHF 2 745 623 000 registered shares, each with a nominal value of CHF 0.50.

Novartis has neither authorized nor conditional capital. There are no preferential voting shares; all shares have equal voting rights. No participation certificates, non-voting equity securities (Genussscheine) or profit-sharing certificates have been issued.

Novartis shares are listed and traded on the SIX Swiss Exchange (Valor No. 001200526, ISIN CH0012005267, symbol: NOVN) as well as on the NYSE in the form of American Depositary Receipts (ADRs) representing Novartis American Depositary Shares (ADSs) (Valor No. 567514, ISIN US66987V1098, symbol: NVS).

The holder of an ADS has the rights enumerated in the Deposit Agreement (such as the right to vote and to receive a dividend). The ADS depositary of Novartis, JPMorgan Chase Bank, New York, holding the Novartis shares underlying the ADSs, is registered as shareholder in the share register of Novartis. An ADS is not a Novartis share and an ADS holder is not a Novartis shareholder. ADS holders exercise their voting rights by instructing the depositary to exercise their voting rights. Each ADS represents one Novartis share.

SHARE REPURCHASE PROGRAMS

Novartis began repurchasing its shares in 1999. Since then, five share repurchase programs have been completed with the repurchase of shares worth CHF 19 billion. Shares repurchased under the first program were not cancelled. However, shares repurchased under the other four programs were cancelled. At the Annual General Meeting in February 2008, shareholders authorized the Board of Directors to launch a sixth program to repurchase shares up to a maximum amount of CHF 10 billion via a second trading line on the SIX Swiss Exchange. In 2008, a total of six million shares were repurchased at an average price of CHF 49.42 per share and cancelled. The share repurchase program was suspended in April 2008 in favor of debt repayment. In December 2010, the Board of Direc-

tors announced the reactivation of the share repurchase program to minimize dilution to existing Novartis shareholders in connection with the proposed merger of Alcon, Inc. into Novartis. In 2010, no shares were repurchased under the share repurchase program. In 2011, 39 430 000 shares were repurchased under the share repurchase program.

CHANGES IN SHARE CAPITAL

During the last three years there were the following changes to the share capital of Novartis:

Novartis increased its share capital once: On 8 April 2011 for the purpose of completing the merger of Alcon, Inc. into Novartis AG, the share capital was increased by CHF 54 million, from CHF 1 318 811 500 to CHF 1 372 811 500, through the issuance of 108 000 000 fully paid-in registered shares with a nominal value of CHF 0.50 each.

As part of a share repurchase program, Novartis reduced its share capital once: In 2009 the share capital was reduced by CHF 3 million, from CHF 1 321 811 500 to CHF 1 318 811 500.

CAPITAL CHANGES

	Number of shares			
Year	As of Jan 1	Shares	As of Dec 31	Amount of capital changed in CHF
2009	2 643 623 000	– 6 000 000	2 637 623 000	– 3 000 000
2010	2 637 623 000	0	2 637 623 000	0
2011	2 637 623 000	108 000 000	2 745 623 000[1]	54 000 000

[1] Capital increase as set-out above

A table with additional information on changes in the Novartis share capital can be found in Note 6 to the Financial Statements of Novartis AG.

CONVERTIBLE OR EXCHANGEABLE SECURITIES

Novartis has not issued convertible or exchangeable bonds, warrants, options or other securities granting rights to Novartis shares, other than options granted to associates as an element of compensation.

SHAREHOLDINGS

SIGNIFICANT SHAREHOLDERS

According to the share register, as of December 31, 2011, the following registered shareholders (including nominees and the ADS depositary) held more than 2% of the total share capital of Novartis with the right to vote these shares:[1]

– Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland, holding 4.1%, and Emasan AG, with its registered office in Basel, Switzerland, holding 3.2%;
– Nominees: JPMorgan Chase Bank, New York, holding 10.9%, Nortrust Nominees, London, holding 3.2%, and Mellon Bank, Everett, Massachusetts, holding 3%; and
– ADS depositary: JPMorgan Chase Bank, New York, holding 11%.

[1] Excluding 5.76% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares.

According to a disclosure notification filed with Novartis AG and the SIX Swiss Exchange, Capital Group Companies, Inc., Los Angeles, USA, held between 3% and 5% of the share capital of Novartis AG as of December 31, 2011.

Disclosure notifications pertaining to shareholdings in Novartis AG that were filed with Novartis AG and the SIX Swiss Exchange are published on the latter's electronic publication platform, and can be accessed via the database search page:
http://www.six-exchange-regulation.com/obligations/disclosure/major_shareholders_en.html

Novartis has not entered into any agreement with any shareholder regarding the voting or holding of Novartis shares.

CROSS SHAREHOLDINGS

Novartis has no cross shareholdings in excess of 5% of capital or voting rights with any other company.

DISTRIBUTION OF NOVARTIS SHARES

The information in the following tables relates only to registered shareholders and does not include holders of unregistered shares. Also, the information provided in the tables below cannot be assumed to be representative of the entire Novartis investor base since nominees and JPMorgan Chase Bank, as ADS depositary, are registered as shareholders for a large number of beneficial owners.

As of December 31, 2011, Novartis had more than 164 000 registered shareholders.

The following table provides information about the distribution of registered shareholders by number of shares held:

NUMBER OF SHARES HELD

As of December 31, 2011	Number of registered shareholders	% of registered share capital
1–100	20 836	0.05
101–1 000	97 906	1.59
1 001–10 000	41 655	4.25
10 001–100 000	3 837	3.60
100 001–1 000 000	495	5.26
1 000 001–5 000 000	79	6.60
5 000 001 or more [1]	35	53.58
Total registered shareholders/shares	164 843	74.93
Unregistered shares		25.07
Total		**100.00**

[1] Including significant registered shareholders as listed above

The following table provides information about distribution of registered shareholders by type:

REGISTERED SHAREHOLDERS BY TYPE

As of December 31, 2011	Shareholders in %	Shares in %
Individual shareholders	96.05	12.37
Legal entities	3.85	39.00
Nominees, fiduciaries	0.10	48.63
Total	**100.00**	**100.00**

The following table provides information about registered shareholders by country:

REGISTERED SHAREHOLDERS BY COUNTRY

As of December 31, 2011	Shareholders in %	Shares in %
France	2.86	1.32
Germany	4.34	3.47
Switzerland [1]	89.37	43.03
United Kingdom	0.51	3.07
United States	0.36	44.57
Other countries	2.56	4.54
Total	**100.00**	**100.00**

[1] Excluding 5.76% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares

SHAREHOLDER RIGHTS

RIGHT TO VOTE ("ONE SHARE, ONE VOTE")

Each share registered with the right to vote entitles the holder to one vote at General Meetings.

ADS holders may vote by instructing JPMorgan Chase Bank, the ADS depositary, to exercise the voting rights attached to the registered shares underlying the ADSs. JPMorgan Chase Bank exercises the voting rights for registered shares underlying ADSs for which no voting instructions have been given by providing a discretionary proxy to the independent proxy (unabhängiger Stimmrechtsvertreter) appointed by Novartis pursuant to Swiss law.

RESOLUTIONS AND ELECTIONS AT GENERAL MEETINGS

The General Meeting passes resolutions and elections with the absolute majority of the votes represented at the meeting. However, under the Articles of Incorporation (www.novartis.com/corporate-governance) the approval of two-thirds of the votes represented at the meeting is required for:

– An alteration of the purpose of Novartis AG;
– The creation of shares with increased voting powers;
– An implementation of restrictions on the transfer of registered shares and the removal of such restrictions;
– An authorized or conditional increase of the share capital;
– An increase of the share capital out of equity, by contribution in kind, for the purpose of an acquisition of property, or the grant of special rights;
– A restriction or suspension of rights or options to subscribe;
– A change of location of the registered office of Novartis AG; or
– The dissolution of Novartis AG.

In addition, the law provides for a special quorum also for other resolutions, such as, for example, for a merger or spin-off.

OTHER SHAREHOLDER RIGHTS

Shareholders representing at least 10% of the share capital may request that an extraordinary General Meeting of shareholders be convened. Shareholders representing shares with an aggregate nominal value of at least CHF 1 million may request that an item be included in the agenda of a General Meeting of shareholders. Such requests must be made in writing at least 45 days before the date of the General Meeting, specify the item to be included in the agenda and contain the proposal on which the shareholder requests a vote.

Shareholders have the right to receive dividends, appoint another shareholder, the corporate proxy, the independent proxy or a custody proxy as proxy and hold such other rights as are granted under Swiss Law.

SHAREHOLDER REGISTRATION

No restrictions apply on the transferability of Novartis shares. However, only shareholders registered in the Novartis share register may exercise their voting rights. In order to be registered, a shareholder must declare that he or she acquired the shares in his or her own name and for his or her own account. The Articles of Incorporation provide that the Board of Directors may register nominees with the right to vote. For restrictions on registration of nominees, please see below.

The Articles of Incorporation provide that no shareholder shall be registered with the right to vote for more than 2% of the registered share capital. The Board of Directors may, upon request, grant an exemption from this restriction. Exemptions are in force for the registered Significant Shareholders listed under – Our Shareholders – Shareholdings – Significant Shareholders. In 2011, no exemptions were requested.

The same restrictions apply to holders of ADSs as those holding Novartis shares.

Given that shareholder representation at General Meetings has traditionally been low in Switzerland, Novartis considers the restriction on registration necessary to prevent a minority shareholder from dominating a General Meeting.

The Articles of Incorporation provide that no nominee shall be registered with the right to vote for more than 0.5% of the registered share capital. The Board of Directors may, upon request, grant an exemption from this restriction if the nominee discloses the names, addresses and the number of shares of the persons for whose account it holds 0.5% or more of the registered share capital. Exemptions are in force for the nominees listed under – Our Shareholders – Shareholdings – Significant Shareholders.

The same restrictions apply to holders of ADSs as those holding Novartis shares.

The restrictions on registration contained in the Articles of Incorporation may only be removed by a resolution of the General Meeting of shareholders, with approval of at least two-thirds of the votes represented at the meeting.

Shareholders, ADS holders or nominees that are linked to each other or act in concert to circumvent the restrictions on registration are treated as one person or nominee for the purposes of the restrictions on registration.

NO RESTRICTION ON TRADING OF SHARES

The registration of shareholders in the Novartis share register or in the ADS register kept by JPMorgan Chase Bank does not affect the tradability of Novartis shares or ADSs. No restrictions are imposed by Novartis or JPMorgan Chase Bank on the trading of registered Novartis shares or ADSs. Registered Novartis shareholders or ADS holders may, therefore, purchase or sell their Novartis shares or ADSs at any time, including prior to a General Meeting regardless of the record date. The record date serves only to determine the right to vote at a General Meeting of Novartis.

CHANGE-OF-CONTROL PROVISIONS

NO OPTING UP, NO OPTING OUT

The Swiss Stock Exchange Act provides that anyone who, directly, indirectly or acting in concert with third parties, acquires equity securities exceeding 33 1/3% of the voting rights of a company – whether or not such rights are exercisable – is required to make an offer to acquire all listed equity securities of that company. A company may raise this threshold to 49% of the voting rights ("opting up") or may, under certain circumstances, waive the threshold ("opting out"). Novartis has not adopted any such measures.

CLAUSES ON CHANGES-OF-CONTROL

There are no change-of-control clauses benefiting Board members. With respect to members of the Executive Committee, see below under – Our Management – Contracts with Members of the Executive Committee.

COMPOSITION OF THE BOARD OF DIRECTORS AND ITS COMMITTEES

ELECTION AND TERM OF OFFICE

All Board members are elected individually.

Board members are elected to terms of office of three years or less by shareholders at General Meetings. The terms of office among Board members are to be coordinated so that approximately one-third of all Board members are subject each year to re-election or election. Under Swiss law, a General Meeting of shareholders is entitled to remove any Board member at any time, regardless of his or her remaining term of office.

The average tenure of Board members is eight years and the average age is 61. A Board member must retire after reaching age 70. Under special circumstances, shareholders may grant an exemption from this rule and re-elect a Board member for additional terms of office of no more than three years at a time.

Name	Nationality	Year of birth	First election at AGM	Last election at AGM	End of current Term
Daniel Vasella, M.D.	CH	1953	1996	2010	2013
Ulrich Lehner, Ph.D.	D	1946	2002	2011	2014
William Brody, M.D., Ph.D.	US	1944	2009	2009	2012
Srikant Datar, Ph.D.	US	1953	2003	2009	2012
Ann Fudge	US	1951	2008	2011	2014
Pierre Landolt, Ph.D.	CH	1947	1996	2011	2014
Enrico Vanni, Ph.D.	CH	1951	2011	2011	2014
Andreas von Planta, Ph.D.	CH	1955	2006	2009	2012
Dr. Ing. Wendelin Wiedeking	D	1952	2003	2009	2012
Marjorie M.T. Yang	CHN	1952	2007	2010	2013
Rolf M. Zinkernagel, M.D.	CH	1944	1999	2009	2012

BOARD MEMBER QUALIFICATIONS

The Corporate Governance and Nomination Committee determines the criteria for the selection of the Board members and Board committee members. Factors considered include skills and knowledge, diversity of viewpoints, professional backgrounds and expertise, business and other experience relevant to the business of Novartis, the ability and willingness to commit adequate time and effort to Board and committee responsibilities, the extent to which person-

ality, background, expertise, knowledge and experience will interact with other Board members to build an effective and complementary Board, and whether existing board memberships or other positions held by a candidate could lead to a conflict of interest.

The biographies of the Board members (pages 98–101) set out the particular qualifications that led the Board of Directors to conclude that a Board member is qualified to serve on the Board of Directors, creating a Board that today is diverse in terms of background, qualifications, interests and skills.

ROLE OF THE BOARD OF DIRECTORS AND THE BOARD COMMITTEES

The Board of Directors is responsible for the overall direction and supervision of the management and holds the ultimate decision-making authority for Novartis AG, except for those decisions reserved to the shareholders.

The Board of Directors has delegated certain responsibilities to five committees: Chairman's Committee, Compensation Committee, Audit and Compliance Committee, Corporate Governance and Nomination Committee and Risk Committee as set out below (responsibilities described with the terms "overseeing" or "reviewing" are subject to final approval by the Board of Directors).

Responsibilities	Membership comprises	Number of meetings held in 2011/approximate average duration of each meeting Attendance	Link
THE BOARD OF DIRECTORS		**9/7**	
The primary responsibilities of the Board of Directors include: – Setting the strategic direction of the Group; – Determining the organizational structure and governance of the Group; – Appointing, overseeing and dismissing key executives and planning their succession; – Determining and overseeing the financial planning, accounting, reporting and controlling; – Approving the annual financial statements and the corresponding financial results releases; and – Approving major transactions and investments.	**Daniel Vasella** [1] Ulrich Lehner William Brody Srikant Datar Ann Fudge Pierre Landolt Enrico Vanni [2] Andreas von Planta Wendelin Wiedeking Marjorie M.T. Yang Rolf M. Zinkernagel	9 9 9 9 9 7 7 9 9 9 8	Articles of Incorporation of Novartis AG Regulations of the Board of Directors, its Committees and the Executive Committee of Novartis AG (Board Regulations) http://www.novartis.com/corporate-governance
THE CHAIRMAN'S COMMITTEE		**6/2**	
The primary responsibilities of this committee include: – Commenting on significant matters before the Board of Directors makes a decision; – Recommending key executive appointments to the Board of Directors; – Dealing with Board matters arising in between Board meetings, including the taking of required preliminary actions; and – Approving transactions and investments as delegated by the Board of Directors.	**Daniel Vasella** [1] Srikant Datar [2] Ulrich Lehner	6 5 6	Charter of the Chairman's Committee http://www.novartis.com/corporate-governance
THE AUDIT AND COMPLIANCE COMMITTEE		**6/3**	
The primary responsibilities of this committee include: – Overseeing the internal auditors; – Supervising the external auditors and selecting and nominating the external auditors for election by the meeting of the shareholders; – Overseeing the accounting policies, financial controls and compliance with accounting and internal control standards; – Approving quarterly financial statements and financial results releases; – Overseeing internal control and compliance processes and procedures; and – Overseeing compliance with laws and external and internal regulations. The Audit and Compliance Committee has the authority to retain external consultants and other advisors.	**Srikant Datar** [1,3] Ulrich Lehner [3] Enrico Vanni [4] Andreas von Planta Wendelin Wiedeking	6 6 3 6 6	Charter of the Audit and Compliance Committee http://www.novartis.com/corporate-governance

[1] Chair
[2] Since February 2011
[3] Audit Committee Financial Expert as defined by the US Securities and Exchange Commission (SEC)
[4] Since April 2011

Responsibilities	Membership comprises	Number of meetings held in 2011/approximate average duration of each meeting Attendance	Link
THE RISK COMMITTEE		**4/2**	
The primary responsibilities of this committee include: – Ensuring that Novartis has implemented an appropriate and effective risk management system and process; – Ensuring that all necessary steps are taken to foster a culture of risk-adjusted decision making without constraining reasonable risk-taking and innovation; – Approving guidelines and reviewing policies and processes; and – Reviewing with management, internal auditors and external auditors the identification, prioritization and management of the risks, the accountabilities and roles of the functions involved with risk management, the risk portfolio and the related actions implemented by management. The Risk Committee has the authority to retain external consultants and other advisors.	**Andreas von Planta**[1] Srikant Datar Ann Fudge[2] Ulrich Lehner Wendelin Wiedeking	4 4 3 4 4	Charter of the Risk Committee http://www.novartis.com/corporate-governance
THE COMPENSATION COMMITTEE		**5/1.5**	
The primary responsibilities of this committee include: – Designing, reviewing and recommending to the Board compensation policies and programs; – Advising the Board on the compensation of the Board members; – Approving the employment terms of key executives; – Deciding on the variable compensation of the Chief Executive Officer, the members of the Executive Committee and other key executives for the past year; and – Deciding on the base salary and the total target compensation of the Chief Executive Officer, the members of the Executive Committee and other key executives for the coming year. The Compensation Committee has the authority to retain external consultants and other advisors.	**Marjorie M.T. Yang**[1] William Brody Srikant Datar Ulrich Lehner Enrico Vanni[3]	5 4 5 4 4	Charter of the Compensation Committee http://www.novartis.com/corporate-governance
THE CORPORATE GOVERNANCE AND NOMINATION COMMITTEE		**3/2**	
The primary responsibilities of this committee include: – Designing, reviewing and recommending to the Board corporate governance principles; – Reviewing on a regular basis the Articles of Incorporation with a view to reinforcing shareholder rights; – Reviewing on a regular basis the composition and size of the Board and its committees; – Reviewing annually the independence status of each Board member; – Reviewing directorships and agreements of board members for conflicts of interest and dealing with conflicts of interest; – Identifying candidates for election as Board member; – Assessing existing Board members and recommending to the Board whether they should stand for re-election; – Preparing and reviewing the succession plan for the CEO; and – Developing and reviewing an orientation program for new Board members and an ongoing education plan for existing Board members. The Corporate Governance and Nomination Committee has the authority to retain external consultants and other advisors.	**Ulrich Lehner**[1] Ann Fudge Pierre Landolt Andreas von Planta Rolf M. Zinkernagel	3 3 2 3 3	Charter of the Corporate Governance and Nomination Committee http://www.novartis.com/corporate-governance

[1] Chair
[2] Since February 2011
[3] Since April 2011

THE FUNCTIONING OF THE BOARD OF DIRECTORS

The Novartis Board of Directors takes decisions as a whole, supported by its five Board committees (Chairman's Committee, Compensation Committee, Audit and Compliance Committee, Corporate Governance and Nomination Committee and Risk Committee). Each Board committee has a written charter outlining its duties and responsibilities and is led by a Chair elected by the Board of Directors.

The Board of Directors and its Board committees meet regularly throughout the year. The Chairs set the agendas of their meetings. Any Board member may request a Board meeting, a meeting of a Board committee, a meeting of the independent Board members or the inclusion of an item on the agenda of such meetings. Board members are provided, in advance of meetings, with materials intended to prepare them to discuss the items on the agenda.

THE CHAIRMAN

The Chairman provides leadership to the Board of Directors in its governance role, oversees that the strategy agreed by the Board of Directors is implemented by the Chief Executive Officer and his reports, provides support and advice to the Chief Executive Officer, reviews the yearly objectives and prepares the performance evaluation of the Chief Executive Officer before approval by and feedback session with the Board of Directors, works closely with the Chief Executive Officer in nominating and evaluating members and permanent attendees of the Executive Committee and in establishing succession plans for key management positions, represents Novartis with stakeholders and oversees Internal Audit.

MEETINGS OF THE BOARD OF DIRECTORS

The Board of Directors has meetings with the members of the Executive Committee, private meetings without members of the Executive Committee and meetings of only the independent Board members.

Topics addressed in the meetings with the Executive Committee include strategy, business reviews and major projects, investments and transactions. Topics addressed in private meetings include performance evaluation of top management, succession planning and Board self-evaluation.

As long as the Chairman is not independent, Dr. Ulrich Lehner, Vice-Chairman, chairs sessions of the independent Board members and leads the independent Board members in case of a crisis or matters requiring their separate consideration or decision. Moreover, every independent Board member may request separate meetings of the independent Board members if the need arises. Dr. Ulrich Lehner also leads the Board if the Chairman is incapacitated.

In 2011, there were nine meetings of the Board of Directors and six meetings of the independent Board members.

INDEPENDENCE OF BOARD MEMBERS

The independence of Board members is a key corporate governance issue. Accordingly, Novartis established independence criteria that are intended to reflect international best-practice standards. These independence criteria (last revised on October 16, 2008) can be found on the Novartis website:
www.novartis.com/investors/governance-documents.shtml

The Corporate Governance and Nomination Committee annually submits to the Board of Directors a proposal concerning the determination of the independence of each Board member. For this assessment, the Committee considers all relevant facts and circumstances of which it is aware.

In its meeting on December 14, 2011, the Board of Directors determined that all of its members, except for Dr. Vasella, were independent.

Dr. Vasella, the Chairman, was until January 31, 2010 also the Chief Executive Officer. The Board of Directors has delegated Rolf M. Zinkernagel, M.D., to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD), and both Dr. Zinkernagel, M.D. and William Brody, M.D. to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF). The Board of Directors concluded that these activities are supervisory and not consultatory in nature and do not affect Dr. Zinkernagel's or Dr. Brody's independence as a Board member.

RELATIONSHIP OF NON-EXECUTIVE BOARD MEMBERS WITH NOVARTIS

With the exception of Dr. Vasella none of the Board members is or was a member of the management of Novartis AG or of any other Novartis Group company in the three financial years preceding 2011.

There are no significant business relationships of any Board member with Novartis AG or with any other Novartis Group company.

INFORMATION AND CONTROL SYSTEMS OF THE BOARD OF DIRECTORS VIS-À-VIS MANAGEMENT

INFORMATION ON THE MANAGEMENT

The Board of Directors ensures that it receives sufficient information from the Executive Committee to perform its supervisory duty and to make decisions that are reserved for the Board of Directors. The authority of the Board of Directors to determine the compensation of the members of the Executive Committee is an important element to ensure the alignment of Executive Committee members with the interests of Novartis and its shareholders.

The Board of Directors obtains the information required to perform its duties through several means:
- the Chief Executive Officer informs the Board regularly about current developments;
- the minutes of Executive Committee meetings are made available to the Board members;
- meetings or teleconferences are held as required between Board members and the Chief Executive Officer;
- the Board of Directors regularly meets with all members of the Executive Committee;

– the Board of Directors is updated in detail by each Division Head on a quarterly basis;
– by invitation, other members of management are invited to attend Board meetings to report on areas of the business within their responsibility; and
– Board members are entitled to request information from members of the Executive Committee or any other Novartis associate, and may also visit any Novartis site.

BOARD COMMITTEES

Board committees regularly meet with management and, at times, outside consultants to review the business, better understand applicable laws and policies affecting the Group and support the Board of Directors and the management in meeting the requirements and expectations of stakeholders and shareholders.

In particular, the Chief Financial Officer, the Group General Counsel and representatives of the external auditors are invited to meetings of the Audit and Compliance Committee. Furthermore, the Heads of Internal Audit, Financial Reporting and Accounting, Compliance, as well as the Business Practices Officers, report on a regular basis to the Audit and Compliance Committee.

The Audit and Compliance Committee reviews financial reporting processes on behalf of the Board of Directors. For each quarterly and annual release of financial information, the Disclosure Review Committee reviews the release for accuracy and completeness of disclosures. The Disclosure Review Committee is chaired by the Chief Financial Officer and is attended by the Group General Counsel, the Heads of the Divisions, the Heads of Finance of the Divisions and the Heads of the following Corporate Functions: Treasury, Financial Reporting and Accounting, Internal Audit and Investor Relations. Decisions made by the Disclosure Review Committee are reviewed by the Audit and Compliance Committee before publication of the quarterly and annual release.

The Risk Committee oversees the risk management system and processes, as well as reviews the risk portfolio of the Group to ensure appropriate and professional management of the risks. For this purpose the Corporate Risk Management function and the risk owners of the Divisions report on a regular basis to the Risk Committee. The Group General Counsel and the Head of Internal Audit are also invited to the meetings.

NOVARTIS MANAGEMENT INFORMATION SYSTEM

Novartis produces comprehensive consolidated financial statements on a monthly basis. These are typically available within ten days of the end of the month and include the following:
– consolidated income statement of the month, quarter-to-date and year-to-date in accordance with International Financial Reporting Standards (IFRS), as well as on a year-to-date and quarterly basis adjustments to arrive at Core results as defined by Novartis. The IFRS figures are compared to the prior year period and targets in both USD and on a constant currency basis;
– consolidated balance sheet as of the month end in accordance with IFRS in USD;
– consolidated cash flow on a year-to-date basis in accordance with IFRS in USD; and
– supplementary data on a monthly, quarterly and year-to-date basis such as free cash flow and gross and net liquidity, headcount, personnel costs, and working capital as defined by Novartis and on a USD basis where applicable.

The above information is made available to the members of the Board on a monthly basis. An analysis of the key deviations from prior year or target is also provided.

The Board also receives on a quarterly basis an outlook of the full year results in accordance with IFRS and Core, together with related commentary prior to the release of the quarterly results.

On an annual basis, in the fourth quarter of the year, the Board receives and approves the operating and financial targets for the following year.

In the middle of the year, the Board also reviews and approves the Strategic Plan for the next five years and the consolidated income statement in USD in accordance with IFRS and Core contained in the Plan.

The Board does not have direct access to Novartis' financial and management reporting systems but can at any time request more detailed financial information on any aspect that is presented to it.

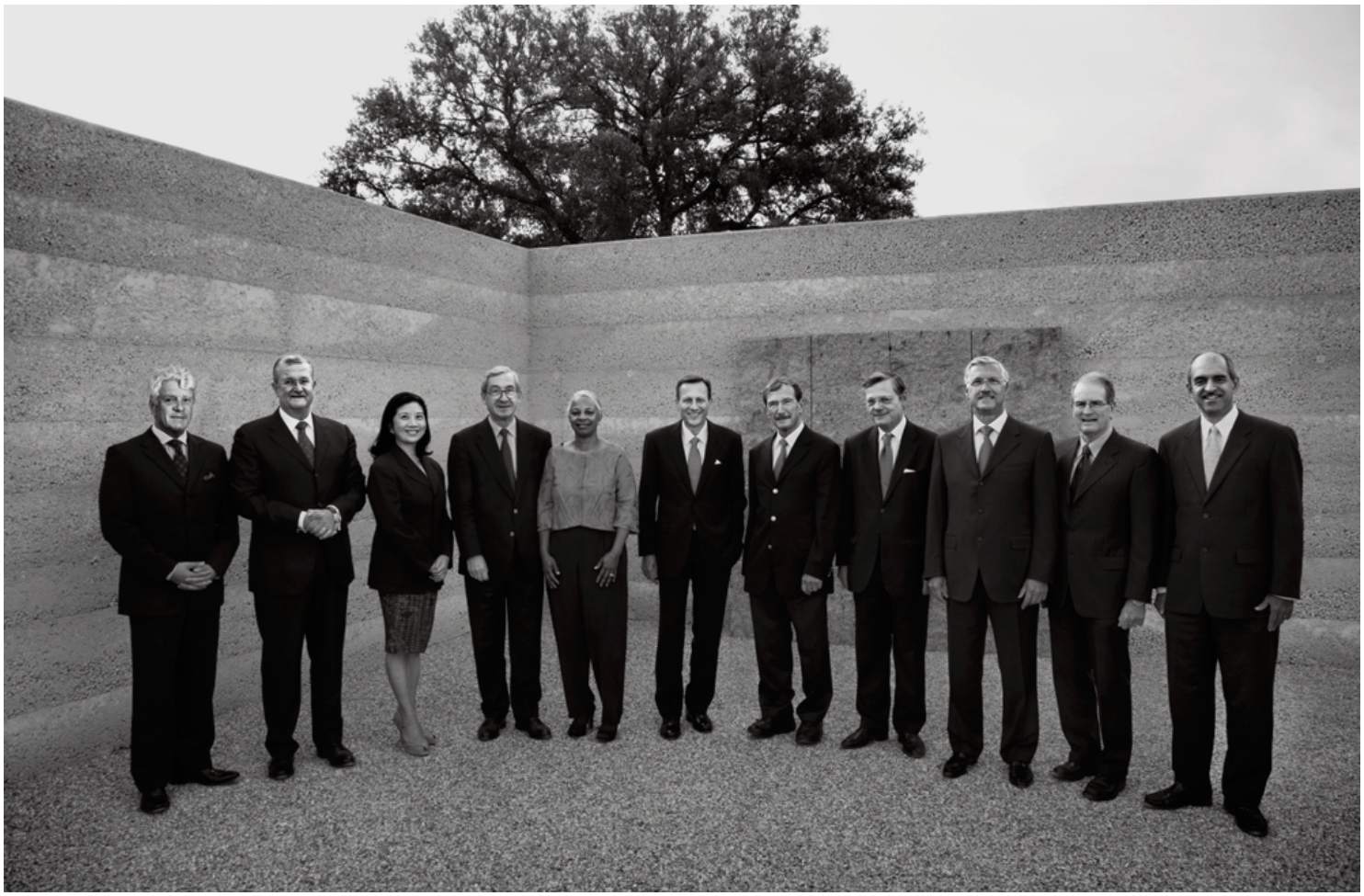
INTERNAL AUDIT

The Internal Audit function carries out operational and system audits in accordance with an audit plan approved by the Audit and Compliance Committee; assists organizational units in the accomplishment of objectives by providing an independent approach to the evaluation, improvement and effectiveness of their internal control framework; prepares reports regarding the audits it has performed; and reports actual or suspected irregularities to the Audit and Compliance Committee and the Chairman. The Audit and Compliance Committee regularly reviews the scope of Internal Audit, the audit plans and the results of the internal audits.

RISK MANAGEMENT

The Corporate Risk Management function reports to the independent Risk Committee of the Board of Directors. The Compensation Committee works closely with the Risk Committee to ensure that the compensation system does not lead to excessive risk-taking by management (for details see our Compensation Report).

Organizational and process measures have been designed to identify and mitigate risks at an early stage. Organizationally, the individual divisions are responsible for risk and risk mitigation, with specialized corporate functions, such as Group Finance, Group Quality Operations, Corporate Health, Safety, Environment and Business Continuity, providing support and controlling the effectiveness of risk management by the Divisions in these respective areas.



From left to right: Pierre Landolt, Wendelin Wiedeking, Marjorie Mun Tak Yang, Ulrich Lehner, Ann Fudge, Daniel Vasella, Rolf M. Zinkernagel, Andreas von Planta, Enrico Vanni, William Brody, Srikant Datar

BOARD OF DIRECTORS

MEMBERS

Daniel Vasella, M.D.
Chairman
Swiss, age 58

Ulrich Lehner, Ph.D.
Vice Chairman
German, age 65

William Brody, M.D., Ph.D.
American, age 67

Srikant Datar, Ph.D.
American, age 58

Ann Fudge
American, age 60

Pierre Landolt, Ph.D.
Swiss, age 64

Enrico Vanni, Ph.D.
Swiss, age 60

Andreas von Planta, Ph.D.
Swiss, age 56

Dr. Ing. Wendelin Wiedeking
German, age 59

Marjorie Mun Tak Yang
Chinese, age 59

Rolf M. Zinkernagel, M.D.
Swiss, age 67

HONORARY CHAIRMAN

Alex Krauer, Ph.D.

CORPORATE SECRETARY

Charlotte Pamer-Wieser, Ph.D.

Daniel Vasella, M.D.
Swiss, age 58

Function at Novartis AG Daniel Vasella, M.D., is Chairman of the Board of Directors for Novartis AG. He served as Chief Executive Officer (CEO) and executive member of the Board of Directors for 14 years following the merger that created Novartis in 1996. Dr. Vasella was appointed Chairman in April 1999.

Other activities Dr. Vasella is a member of the board of directors of PepsiCo, Inc. He is also a member of the International Board of Governors of the Peres Center for Peace in Israel, the International Business Leaders Advisory Council for the Mayor of Shanghai, the Global Health Program Advisory Panel of the Bill & Melinda Gates Foundation, and is a foreign honorary member of the American Academy of Arts and Sciences. He is also a member of the Board of Trustees of the Carnegie Endowment for International Peace. In addition, Dr. Vasella serves as a member of several industry associations and educational institutions.

Professional background Before the Novartis merger, Dr. Vasella was CEO of Sandoz Pharma Ltd. and a member of the Sandoz Group Executive Committee. From 1988 to 1992, he was with Sandoz Pharmaceuticals Corporation in the United States, prior to which he held a number of medical positions in Switzerland. He graduated with an M.D. from the University of Bern in Switzerland and completed executive training at the Harvard Business School in the United States. He was also awarded an honorary doctorate by the University of Basel.

Key knowledge/experience *Leadership, Biomedical Science and Global Marketing experience* – former CEO of Novartis; advisory panel member for international health and development foundation. *Industry experience* – board member for global consumer goods company.

Ulrich Lehner, Ph.D.
German, age 65

Function at Novartis AG Ulrich Lehner, Ph.D., has been a member of the Board of Directors since 2002. He qualifies as an independent Non-Executive Director. He serves as Vice Chairman and Chairman of the Corporate Governance and Nomination Committee. He is also a member of the Audit and Compliance Committee, the Risk Committee, the Chairman's Committee, and the Compensation Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities Mr. Lehner is member of the shareholders' committee of Henkel AG & Co. KGaA, Chairman of the Supervisory Board of Deutsche Telekom AG, and serves as a member of the supervisory boards of E.ON AG, ThyssenKrupp AG, Porsche Automobil Holding SE and Henkel Management AG, all in Germany. He is also a member of the shareholders' committee of Dr. August Oetker KG and Krombacher Brauerei, both in Germany.

Professional background Mr. Lehner graduated in business administration and mechanical engineering from the Darmstadt University of Technology, Germany, in 1975. From 1975 to 1981, he was an auditor with KPMG Deutsche Treuhand-Gesellschaft AG in Duesseldorf. In 1981, he joined Henkel KGaA. After heading the Controlling Department of Fried. Krupp GmbH in Germany from 1983 to 1986, Mr. Lehner returned to Henkel as Finance Director. From 1991 to 1994, he headed Henkel Asia-Pacific Ltd. in Hong Kong, and from 1995 to 2000, he served as Executive Vice President, Finance/Logistics, of Henkel KGaA. From 2000 to 2008, Mr. Lehner served as Chairman of the Management Board of Henkel KGaA.

Key knowledge/experience *Leadership and Global experience* – chairman of supervisory board of global telecommunication company; former chairman of the management board of global consumer goods company. *Industry experience* – member of supervisory boards of global energy, automotive and manufacturing technology companies.

William Brody, M.D., Ph.D.
American, age 67

Function at Novartis AG William Brody, M.D., Ph.D., has been a member of the Board of Directors since 2009. He qualifies as an independent Non-Executive Director. He is a member of the Compensation Committee.

Other activities Dr. Brody is President of the Salk Institute for Biological Studies, La Jolla, Calif., United States. He is also a member of the boards of directors of the US-based International Business Machines Corp. and Kool Smiles Inc., and the mutual funds boards of T. Rowe Price. He is a member of numerous professional associations, and also serves on the advisory boards of various government and nonprofit organizations.

Professional background Dr. Brody earned his bachelor's and master's degrees in electrical engineering from the Massachusetts Institute of Technology before completing his M.D. and Ph.D. at Stanford University. Following training in cardiovascular surgery and radiology he held various academic positions, including Professor for Radiology and Electrical Engineering at Stanford University and Director of the Department of Radiology at The Johns Hopkins University. From 1996 to 2009, he was president of The Johns Hopkins University, and since 2009, president of the Salk Institute for Biological Studies in the United States. He is a member of the US National Academy of Engineering and the Institute of Medicine.

Key knowledge/experience *Leadership, Biomedical Science, Healthcare and Education experience* – president of leading US scientific research institution; former president of leading US university. *Global, Engineering and Technology experience* – former board member of global technology company.

Srikant Datar, Ph.D.
American, age 58

Function at Novartis AG Srikant Datar, Ph.D., has been a member of the Board of Directors since 2003. He qualifies as an independent Non-Executive Director. He is Chairman of the Audit and Compliance Committee, and a member of the Chairman's Committee, the Risk Committee and the Compensation Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities Mr. Datar is Arthur Lowes Dickinson Professor at the Graduate School of Business Administration at Harvard University. He is also a member of the board of directors of ICF International Inc. and of Stryker Corp., both in the United States, and of KPIT Cummins Infosystems Ltd., India.

Professional background Mr. Datar graduated with distinction in mathematics and economics from the University of Bombay, India, in 1973. He is a Chartered Accountant, and holds two master's degrees and a Ph.D. from Stanford University. Mr. Datar has worked as an accountant and planner in industry, and as a professor at Carnegie Mellon University, Stanford University and Harvard University all in the United States. His research interests are in the areas of cost management, measurement of productivity, new product development, time-based competition, incentives and performance evaluation. He is the author of many scientific publications, and has received several academic awards and honors. Mr. Datar has advised and worked with numerous companies in research, development and training.

Key knowledge/experience *Leadership and Education experience* – former senior associate dean and current professor of leading US university. *Global and Industry experience* – board member of global professional services firm; board member of global leading medical technology company; board member of Indian high-technology company.

Ann Fudge
American, age 60

Function at Novartis AG Ann Fudge has been a member of the Board of Directors since 2008. She qualifies as an independent Non-Executive Director. She is a member of the Corporate Governance and Nomination Committee, and the Risk Committee.

Other activities Ms. Fudge serves on the board of directors of General Electric Co., on the board of directors of Unilever, UK/Netherlands and on the board of directors of Infosys, India. She is a trustee of the New York-based Rockefeller Foundation and the Atlanta-based Morehouse College, and is chairman of the US Programs Advisory Panel of the Bill & Melinda Gates Foundation. Ms. Fudge is further a member of the Harvard University Corporation Committee on Finance. She also is on the board of the Council on Foreign Relations.

Professional background Ms. Fudge received her bachelor's degree from Simmons College and her MBA from Harvard University Graduate School of Business in the United States. She is former chairman and CEO of Young & Rubicam Brands. Before that, she served as president of the Beverages, Desserts and Post Division of Kraft Foods Inc.

Key knowledge/experience *Leadership and Marketing experience* – former chairman and CEO of global marketing communications company; former president of leading consumer products business unit. *Global and Industry experience* – board member of global technology company and global consumer goods company.

Pierre Landolt, Ph.D.
Swiss, age 64

Function at Novartis AG Pierre Landolt has been a member of the Board of Directors since 1996. He qualifies as an independent Non-Executive Director. He is a member of the Corporate Governance and Nomination Committee.

Other activities Mr. Landolt is currently chairman of the Sandoz Family Foundation and oversees the development of the foundation in several investment fields. He is a member of the board of directors of Syngenta AG. He is a partner with unlimited liabilities of the Swiss private bank Landolt & Cie. In Brazil, Mr. Landolt serves as president of the Instituto Fazenda Tamanduá, the Instituto Estrela de Fomento ao Microcrédito, AxialPar Ltda. and Moco Agropecuaria Ltda. In Switzerland, he is chairman of Emasan AG and Vaucher Manufacture Fleurier SA, vice chairman of Parmigiani Fleurier SA, and is on the board of the Syngenta Foundation for Sustainable Agriculture. He is a member of the board of EcoCarbone SA, France, and Swiss Amazentis SA. He is also vice chairman of the Montreux Jazz Festival Foundation.

Professional background Mr. Landolt graduated with a bachelor's degree in law from the University of Paris-Assas. From 1974 to 1976, he worked for Sandoz Brazil SA. In 1977, he acquired an agricultural estate in the semi-arid Northeast Region of Brazil and, over several years, converted it into a model farm in organic and biodynamic production. Since 1997, Mr. Landolt has been associate and chairman of AxialPar Ltda., Brazil, an investment company focused on sustainable development. In 2000, he co-founded EcoCarbone SA, France, a company active in the design and development of carbon-sequestration processes. In 2007, he co-founded Amazentis SA, Switzerland, a startup company active in the convergence space of medication and nutrition.

Key knowledge/experience *Banking and Industry experience; International and Emerging Market experience* – partner of private bank; chairman and vice chairman of luxury goods companies. *Leadership and Global experience* – President of large family investment holding; board member of global agribusiness company; board member of sustainable agriculture foundation.

Enrico Vanni, Ph.D.
Swiss, age 60

Function at Novartis AG Enrico Vanni, Ph.D., has been a member of the Board of Directors since 2011. He qualifies as an independent Non-Executive Director. He is a member of the Audit and Compliance Committee, and the Compensation Committee.

Other activities Since his retirement as director of McKinsey & Company in 2007, Mr. Vanni has been an independent consultant. He is currently a member of several boards of directors in industries from healthcare to private banking, for nonlisted companies including Eclosion2, Denzler & Partners SA and Banque Privée BCP (Suisse) SA.

Professional background Mr. Vanni holds an engineering degree in chemistry from the Federal Polytechnic School of Lausanne, Switzerland, a Ph.D. in chemistry from the University of Lausanne, as well as a Master of Business Administration from INSEAD in Fontainebleau, France. He began his career as a research engineer at International Business Machines Corp. in California, and joined McKinsey & Company in Zurich, Switzerland, in 1980. He managed the Geneva office for McKinsey from 1988 to 2004, and consulted for companies in the pharmaceutical, consumer and finance sectors. He led the company's European pharmaceutical practice and served as member of the Partner review committee of the firm prior to his retirement in 2007. As an independent consultant, Mr. Vanni has continued to support leaders of pharmaceutical and biotechnology companies on core strategic challenges facing the healthcare industry.

Key knowledge/experience *Global industry experience* – senior consultant of global pharmaceutical/biotech companies, consumer goods and financial institutions. *Science experience* – research engineer in technology company and management of projects in global pharmaceutical R&D. *Leadership experience* – office management of global consultant company and leadership of its European pharmaceutical practice.

Andreas von Planta, Ph.D.
Swiss, age 56

Function at Novartis AG Andreas von Planta, Ph.D., has been a member of the Board of Directors since 2006. He qualifies as an independent Non-Executive Director. He is Chairman of the Risk Committee, and a member of the Audit and Compliance Committee, as well as the Corporate Governance and Nomination Committee.

Other activities Mr. von Planta is chairman of the Schweizerische National-Versicherungs-Gesellschaft AG and a board member of Holcim Ltd., both in Switzerland. He is also a board member of various Swiss subsidiaries of foreign companies and other nonlisted Swiss companies. He is a member of the Board of Editors of the *Swiss Review of Business Law* and is a former chairman of the Geneva Association of Business Law. Mr. von Planta is chairman of the regulatory board of the SIX Swiss Exchange AG.

Professional background Mr. von Planta holds lic. iur. and Ph.D. degrees from the University of Basel, Switzerland, and an LL.M. from Columbia University School of Law, New York, United States. He passed his bar examinations in Basel in 1982. Since 1983 he has lived in Geneva and worked for the law firm Lenz & Staehelin, where he became a partner in 1988. His areas of specialization include corporate law, corporate governance, corporate finance, company reorganizations, and mergers and acquisitions.

Key knowledge/experience *Leadership and Global experience* – chairman of insurance company; board member of global construction materials manufacturer. *Industry experience* – partner of leading Swiss law firm.

Dr. Ing. Wendelin Wiedeking
German, age 59

Function at Novartis AG Dr. Ing. Wendelin Wiedeking has been a member of the Board of Directors since 2003. He qualifies as an independent Non-Executive Director. He is a member of the Audit and Compliance Committee, and the Risk Committee.

Other activities Mr. Wiedeking was chairman of the executive board of Porsche Automobil Holding SE and of Dr. Ing. h.c. F. Porsche AG, both in Germany, until July 2009. Since then he has been an entrepreneur.

Professional background Mr. Wiedeking graduated in mechanical engineering in 1978 and worked as a scientific assistant in the machine tool laboratory of the Rhine-Westphalian College of Advanced Technology in Germany. His professional career began in 1983 in Germany as director's assistant in the production and materials management area of Dr. Ing. h.c. F. Porsche AG in Stuttgart-Zuffenhausen. In 1988, he moved to Glyco Metall-Werke KG in Wiesbaden as Division Manager, where he advanced by 1990 to the position of Chief Executive Officer and Chairman of the Board of Management of Glyco AG. In 1991, he returned to Dr. Ing. h.c. F. Porsche AG as production director. A year later, the supervisory board appointed him spokesman of the executive board (CEO), then chairman in 1993.

Key knowledge/experience *Leadership, Global and Industry experience* – former chairman and CEO of global automotive company. *Engineering and Technology experience* – former chairman and CEO of manufacturing supply company.

Marjorie Mun Tak Yang
Chinese, age 59

Function at Novartis AG Marjorie Mun Tak Yang has been a member of the Board of Directors since 2008. She qualifies as an independent Non-Executive Director. She is Chairman of the Compensation Committee.

Other activities Ms. Yang is Chairman of the Esquel Group, Hong Kong, China. She is a member of the Executive Council of the Hong Kong Special Administrative Region. In China, she is a member of the National Committee of the Chinese People's Political Consultative Conference. She currently serves on the boards of Swire Pacific Ltd., and The Hong Kong and Shanghai Banking Corp. Ltd. in Hong Kong, and on the boards of a number of nonlisted companies. In January 2010 she was appointed as Chairman of the Council of the Hong Kong Polytechnic University. She also serves on the advisory boards of Harvard Business School, and Tsinghua School of Economics and Management. From 2001 to 2011, Ms. Yang was a member of the MIT Corp.

Professional background Ms. Yang graduated with a bachelor's degree in mathematics from Massachusetts Institute of Technology and holds a master's degree from Harvard Business School, both in the United States. From 1976 to 1978, she was an associate in Corporate Finance, Mergers and Acquisitions, with the First Boston Corporation in New York, United States. In 1979, she returned to Hong Kong and became a founding member of Esquel Group. She was appointed chairman of the Group in 1995.

Key knowledge/experience *Leadership, Global and Industry experience* – chairman of global textile manufacturing company. *Education and Science experience* – trustee of leading US research university; leadership roles at multiple universities.

Rolf M. Zinkernagel, M.D.
Swiss, age 67

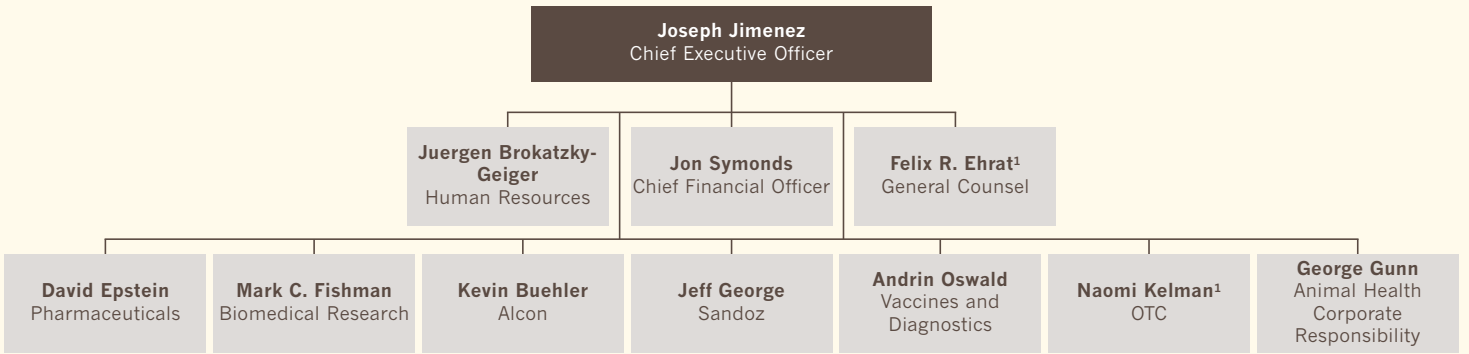
Function at Novartis AG Rolf M. Zinkernagel, M.D., has been a member of the Board of Directors since 1999. He qualifies as an independent Non-Executive Director. He is a member of the Corporate Governance and Nomination Committee.

Other activities Dr. Zinkernagel was Vice President of the International Union of Immunological Societies until 2010. He is a member of the scientific advisory boards of Bio-Alliance AG, Germany; Aravis General Partner Ltd., Cayman Islands and Switzerland; Telormedix, Switzerland; X-Biotech, Canada; Novimmune, Switzerland; Cancevir, Switzerland; Nuvo Research Inc., Canada; ImVision, Germany; MannKind, United States; and Biomedical Sciences International Advisory Council, Singapore. Dr. Zinkernagel is also a science consultant to Chilka Ltd., Cayman Islands; Ganymed, Germany; and Zhen-Ao Group, China. He is a member of the scientific advisory panel of Swiss Re, Switzerland.

Professional background Dr. Zinkernagel graduated from the University of Basel, Switzerland, with an M.D. in 1970. From 1992 to 2008, he was a professor and director of the Institute of Experimental Immunology at the University of Zurich, and after retirement in 2008 continues to be active at the University of Zurich. Dr. Zinkernagel has received many awards and prizes for his work and contribution to science, notably the Nobel Prize in medicine, which he was awarded in 1996.

Key knowledge/experience *Biomedical Science and Education experience* – former professor and director at leading Swiss university. *Leadership and Global experience* – member of scientific advisory boards of numerous global biotech companies; member of major international research councils.

COMPOSITION OF THE EXECUTIVE COMMITTEE



[1]Permanent attendee until December 31, 2011, full member as per January 1, 2012

COMPOSITION OF THE EXECUTIVE COMMITTEE

The Executive Committee is headed by the Chief Executive Officer. The members of the Executive Committee are appointed by the Board of Directors. The Chairman may appoint or remove non-voting Permanent Attendees to attend the meetings of the Executive Committee. As of December 31, 2011, there were 2 Permanent Attendees attending meetings of the Executive Committee.

The organizational structure and the details of the responsibility of the Executive Committee are set forth in the Board Regulations (www.novartis.com/corporate-governance).

The Board of Directors has not concluded any contracts with third parties to manage the business.

ROLE AND FUNCTIONING OF THE EXECUTIVE COMMITTEE

The Board of Directors has delegated to the Executive Committee the coordination of the Group's day-to-day business operations. This includes:

- Developing policies, strategies and strategic plans for approval by the Board of Directors and implementing those approved by the Board of Directors;
- Submitting to the Board of Directors and its committees proposed changes in management positions of material significance, investments, financial measures, acquisitions or divestitures, contracts of material significance and budgets;
- Preparing and submitting quarterly and annual reports to the Board of Directors or its committees;
- Informing the Board of Directors of all matters of fundamental significance to the businesses;
- Recruiting, appointing and promoting senior management;
- Ensuring the efficient operation of the Group and achievement of optimized results;
- Promoting an active internal and external communications policy; and
- Dealing with any other matters as are delegated by the Board of Directors to the Executive Committee.

THE CHIEF EXECUTIVE OFFICER

In addition to other duties that may be assigned by the Board of Directors, the Chief Executive Officer, supported by the Executive Committee, is responsible overall for the management and performance of the business, leads the Executive Committee, builds and maintains an effective executive team and represents Novartis with major customers, financial analysts, investors and with the media.

CONTRACTS WITH MEMBERS OF THE EXECUTIVE COMMITTEE

In accordance with good corporate governance, employment contracts with members of the Executive Committee do not contain unusually long notice periods, change-of-control clauses or severance payments.

From left to right: Juergen Brokatzky-Geiger, Naomi Kelman, Joseph Jimenez, Andrin Oswald, Mark C. Fishman, Felix R. Ehrat, George Gunn, Jonathan Symonds, Kevin Buehler, Jeff George, David Epstein

EXECUTIVE COMMITTEE

MEMBERS

Joseph Jimenez
American, age 52

Juergen Brokatzky-Geiger, Ph.D.
German, age 59

Kevin Buehler
American, age 54

Felix R. Ehrat, Ph.D.
Swiss, age 54

David Epstein
American, age 50

Mark C. Fishman, M.D.
American, age 60

Jeff George
American, age 38

George Gunn, MRCVS
British, age 61

Naomi Kelman
American, age 52

Andrin Oswald, M.D.
Swiss, age 40

Jonathan Symonds
British, age 52

SECRETARY

Bruno Heynen

Joseph Jimenez
American, age 52

Joseph Jimenez has been Chief Executive Officer (CEO) of Novartis since 2010. Mr. Jimenez is responsible for leading the company's diversified healthcare portfolio of leading businesses in innovative pharmaceuticals, eye care, generics, vaccines and diagnostics, OTC and animal health. Previously Mr. Jimenez served as Division Head, Novartis Pharmaceuticals. He led the transformation of the pharmaceutical portfolio to balance mass market and specialty products, and significantly increased the percentage of sales from newly launched products. Mr. Jimenez also worked to realign the division's commercial approach to focus on the individual needs of customers, and incorporated more technological tools to better connect with patients and customers. Mr. Jimenez joined Novartis in April 2007 as Division Head, Novartis Consumer Health. Previously, he served as president and CEO of the North America business for the H.J. Heinz Co., and as president and CEO of Heinz in Europe from 2002 to 2006. Prior to joining Novartis, he was a nonexecutive director of AstraZeneca PLC, United Kingdom, from 2002 to 2007. He was also an advisor for the private equity organization Blackstone Group in the United States. Mr. Jimenez is a member of the board of directors of Colgate-Palmolive Co. He graduated in 1982 with a bachelor's degree from Stanford University and in 1984 with a Master of Business Administration from the University of California, Berkeley.

Juergen Brokatzky-Geiger, Ph.D.
German, age 59

Juergen Brokatzky-Geiger, Ph.D., has been Head of Human Resources of Novartis since 2003. He is a member of the Executive Committee of Novartis. Mr. Brokatzky-Geiger joined Ciba-Geigy Ltd. in 1983 as a laboratory head in the Pharmaceuticals Division in Switzerland. After a job rotation in the United States, he held positions of increasing responsibility in Research and Development (R&D), including Group Leader of Process R&D, Head of Process R&D, and Head of Process Development and Pilot Plant Operations. During the merger of Ciba-Geigy and Sandoz in 1996, Mr. Brokatzky-Geiger was appointed Integration Officer of Technical Operations. He later became the Head of Chemical and Analytical Development, and served as the Global Head of Technical R&D from 1999 to 2003. Mr. Brokatzky-Geiger is a member of the board of Bachem AG. Mr. Brokatzky-Geiger graduated with a Ph.D. in chemistry from the University of Freiburg, Germany, in 1982.

Kevin Buehler
American, age 54

Kevin Buehler has been Division Head, Alcon, since April 2011. He is a member of the Executive Committee of Novartis. Mr. Buehler was president and chief executive officer of Alcon Inc. from 2009 to 2011. He began his career with Alcon in 1984 as a regional sales manager in the Consumer Products Division, and held positions of increasing responsibility before being named director of sales and marketing. In 1996, he became director of Alcon's US Managed Care and Falcon Generic Pharmaceutical groups, and became vice president in 1998. The following year he returned to the US Consumer Products Division as vice president and general manager. Mr. Buehler moved to the International Division in 2002 as vice president and regional manager, Latin America and Caribbean. He was later named area vice president, Latin America, Canada, Australia and Far East. Mr. Buehler also served as senior vice president, global markets, and chief marketing officer. Prior to joining Alcon, he worked for The Gillette Co. and Snyder Drug Stores. Mr. Buehler holds a Bachelor of Science degree from Carroll University in Waukesha, Wis., in the United States, with concentrations in business administration and political science. He completed the Harvard Program for Management Development in 1993.

Felix R. Ehrat, Ph.D.
Swiss, age 54

Felix R. Ehrat, Ph.D., has been Group General Counsel and a permanent attendee of the Executive Committee of Novartis since October 2011. As of January 1, 2012, he is a full member of the Executive Committee. Mr. Ehrat is a leading practitioner of corporate, banking, and mergers and acquisitions law, as well as an expert in corporate governance and arbitration. He started his career as an associate with Baer & Karrer Ltd. in Zurich in 1987, became partner in 1992, and advanced to senior partner (2003 to 2011) and executive chairman of the board (2007 to 2011) of the firm. Mr. Ehrat is chairman of Globalance Bank AG in Switzerland, and a member of the board of Liechtensteinische Landesbank AG in Liechtenstein. Previously, Mr. Ehrat was chairman of Banca del Gottardo, and a board member of Julius Baer Holding AG, Austriamicrosystems AG, Charles Voegele Holding AG, and Carlo Gavazzi Holding AG. Mr. Ehrat was admitted to the Zurich bar in 1985 and received his doctorate of law from the University of Zurich in 1990. In 1986, he completed an LL.M. at McGeorge School of Law in the United States. His past memberships and positions include: the International Bar Association, where he was co-chair of the Committee on Corporate and M&A Law from 2007 to 2008; Association Internationale des Jeunes Avocats, where he was president from 1998 to 1999; and the Swiss Arbitration Association, the Zurich Bar Association, and the Swiss Bar Association.

David Epstein
American, age 50

David Epstein has been Division Head, Novartis Pharmaceuticals, since 2010. He also is responsible for Group Emerging Markets, a group of selected countries with integrated divisional businesses. He is a member of the Executive Committee of Novartis. Prior to his current appointment, Mr. Epstein served as Head of Novartis Oncology for nearly 10 years. In addition, Mr. Epstein led the Molecular Diagnostics Unit since its creation in 2008. Before joining Novartis, Mr. Epstein was an associate in the strategy practice of the consulting firm Booz Allen Hamilton Inc. in the United States. Mr. Epstein joined Sandoz, a predecessor company of Novartis, in 1989, and held various leadership positions of increasing responsibility for the company, including Chief Operating Officer of Novartis Pharmaceuticals Corporation in the United States and Head of Novartis Specialty Medicines. Mr. Epstein graduated with a bachelor's degree in pharmacy from Rutgers University College of Pharmacy in 1984, and with a Master of Business Administration in finance and marketing from New York's Columbia University Graduate School of Business in 1987.

Mark C. Fishman, M.D.
American, age 60

Mark C. Fishman, M.D., has been President of the Novartis Institutes for BioMedical Research (NIBR) since 2002. He is a member of the Executive Committee of Novartis. Before joining Novartis in 2002, Dr. Fishman was chief of cardiology and director of the Cardiovascular Research Center at Massachusetts General Hospital, and was professor of medicine at Harvard Medical School, both in the United States. Dr. Fishman completed his internal medicine residency, chief residency and cardiology training at Massachusetts General Hospital. Dr. Fishman graduated with a bachelor's degree from Yale College in 1972 and an M.D. from Harvard Medical School in 1976. He has been honored with many awards and distinguished lectureships, and is a member of the Institute of Medicine of the National Academies and a Fellow of the American Academy of Arts and Sciences, both in the United States.

Jeff George
American, age 38

Jeff George has been Division Head, Sandoz, since 2008. He is a member of the Executive Committee of Novartis. Mr. George joined the Vaccines and Diagnostics Division of Novartis in 2007 as Head of Commercial Operations for Western and Eastern Europe. He then advanced to Head of Emerging Markets for the Middle East, Africa, Southeast Asia and CIS at Novartis Pharmaceuticals. Before joining Novartis, Mr. George was a Senior Director of Strategy and Business Development at Gap Inc., San Francisco, United States. From 2001 to 2004, he was an Engagement Manager with McKinsey & Company, also in San Francisco. Mr. George received a Master of Business Administration from Harvard University in 2001. He graduated in 1999 with a master's degree from The Johns Hopkins University's School of Advanced International Studies, where he studied international economics and emerging markets political economy. In 1996, he received his bachelor's degree in international relations from Carleton College in Northfield, Minn., in the United States.

George Gunn, MRCVS
British, age 61

George Gunn has been Division Head, Novartis Animal Health, and Head, Corporate Responsibility, since March 2011. He is a member of the Executive Committee of Novartis. Before joining Novartis, Mr. Gunn was president of Pharmacia Animal Health, based in the United States. Previously, he spent more than 15 years in positions of increasing responsibility in healthcare companies. He worked as a veterinary surgeon for nine years before joining the industry. Mr. Gunn joined Novartis in 2003 as Head of Novartis Animal Health, North America. In January 2004, he assumed his position as Head of the Animal Health Business Unit. In addition to this role, he was Division Head, Novartis Consumer Health, from 2008 to 2011. Mr. Gunn graduated with a bachelor of veterinary medicine and surgery degree from the Royal (Dick) School of Veterinary Studies in the United Kingdom in 1973. He graduated with a diploma in veterinary state medicine from the same school in 1978. In 2008, he received an honorary doctorate in veterinary medicine and surgery from the University of Edinburgh.

Naomi Kelman
American, age 52

Naomi Kelman has been Division Head, Novartis OTC and a permanent attendee of the Executive Committee of Novartis since March 2011. As of January 1, 2012, she is a full member of the Executive Committee. Before joining Novartis, Ms. Kelman was president of LifeScan North America, part of the Johnson & Johnson Diabetes Care Franchise. Ms. Kelman joined Johnson & Johnson in 2000, and held several leadership roles within the Consumer as well as the Medical Device and Diagnostic sectors. She also was president of Johnson & Johnson Vision Care for the Americas. Prior to joining Johnson & Johnson, Ms. Kelman held positions of increasing responsibility at Bristol-Myers Squibb Co. in the Clairol Division, and oversaw expansion of some of the company's biggest consumer brands into the Europe, Middle East and Africa regions. Ms. Kelman also was managing director of the Matrix Essentials business for Europe and then vice president of marketing for the worldwide Matrix Essentials business. Prior to her time at Bristol-Myers Squibb, she worked in Finance at American Express Co. Ms. Kelman received both her bachelor's and Master of Business Administration degrees from Cornell University in the United States.

Andrin Oswald, M.D.
Swiss, age 40

Andrin Oswald, M.D., has been Division Head, Novartis Vaccines and Diagnostics, since 2008. He is a member of the Executive Committee of Novartis. Previously, Dr. Oswald was Chief Executive Officer (CEO) of Speedel Holding AG and Global Head of Pharmaceutical Development Franchises in the Novartis Pharmaceuticals Division, both in Switzerland. Dr. Oswald joined Novartis in 2005 as Assistant to the Chairman and CEO. Before his appointment as Head of Development Franchises, he served as Head of the Country Pharmaceuticals Organization (CPO) and Country President for Novartis in South Korea. Dr. Oswald joined Novartis from McKinsey & Company, Switzerland, where he was an associate principal. Between 2002 and 2003, he was a delegate of the International Committee of the Red Cross (ICRC) to Nepal. He holds a doctorate in medicine from the University of Geneva.

Jonathan Symonds
British, age 52

Jonathan Symonds has been Chief Financial Officer (CFO) of Novartis since 2010. He is a member of the Executive Committee of Novartis. Before joining Novartis in 2009, Mr. Symonds was partner and managing director of Goldman Sachs Group Inc. in the United Kingdom. He also has eight years of experience as CFO of AstraZeneca PLC, and previously held positions as Group Finance Director at Zeneca and partner at KPMG. From 2004 to 2007, Mr. Symonds was a director of Diageo PLC and chairman of the audit committee. Other previous roles include director and audit committee chairman of Qinetiq PLC, chairman of the 100 Group of Finance Directors, joint chairman of the Business Tax Forum, board member of the Accounting Standards Board, and founder of the Oxford University Centre for Business Taxation Research, all in the United Kingdom. Mr. Symonds graduated with a first class degree in business finance from the University of Hertfordshire, United Kingdom, in 1980, and became a Fellow of Chartered Accountants in 1982. He is a Commander of the British Empire (CBE).

THE INDEPENDENT EXTERNAL AUDITORS

DURATION OF THE MANDATE AND TERMS OF OFFICE

Based on a recommendation by the Audit and Compliance Committee, the Board of Directors nominates an independent auditor for election at the Annual General Meeting. PricewaterhouseCoopers (PwC) assumed its existing auditing mandate for Novartis in 1996. Peter Kartscher, auditor in charge, and Michael P. Nelligan, global relationship partner, began serving in their respective roles in 2009. The Audit and Compliance Committee ensures that the auditor in charge is rotated at least every five years.

INFORMATION TO THE BOARD OF DIRECTORS AND THE AUDIT AND COMPLIANCE COMMITTEE

The independent auditor, PwC, is responsible for opining on whether the audited consolidated financial statements comply with International Financial Reporting Standards (IFRS) and Swiss law and whether the separate parent company financial statements of Novartis AG comply with Swiss law. Additionally, PwC is responsible for opining on the effectiveness of internal control over financial reporting.

The Audit and Compliance Committee, acting on behalf of the Board of Directors, is responsible for overseeing the activities of PwC. During 2011, the Audit and Compliance Committee held 6 meetings. At each of these meetings, PwC was invited to attend during the discussion of agenda items that dealt with accounting, financial reporting or auditing matters and any other matters relevant for their audit.

On an annual basis, PwC provides to the Audit and Compliance Committee the written disclosures required by Rule 3526, "Communications with Audit Committees Concerning Independence," of the Public Company Accounting Oversight Board (PCAOB), and the Audit and Compliance Committee and PwC discuss PwC's independence from Novartis and Novartis' management.

The Audit and Compliance Committee recommended to the Board of Directors, and the Board of Directors approved, inclusion of the audited financial statements in the Annual Report for the year ended December 31, 2011.

The Audit and Compliance Committee, on a regular basis, evaluates the performance of PwC and, once yearly, based on a performance evaluation, recommends to the Board of Directors whether PwC should be proposed to the Annual General Meeting for election. Also, once yearly, the auditor in charge and the global relationship partner report to the Board of Directors on the activities of PwC during the current year and on the audit plan for the coming year and answer any questions or concerns Board members might have on the performance of PwC, or on the work PwC has conducted or is planning to conduct.

In order to assess the performance of PwC, the Audit and Compliance Committee requires a self-evaluation report from PwC, holds private meetings with the Chief Executive Officer, the Chief Financial Officer and with the Head of Internal Audit and, if necessary, obtains an independent external assessment. The Board of Directors also meets with the auditor in charge and the global relationship partner. Criteria applied for the performance assessment of PwC include technical and operational competence, independent and objective view, sufficient resources employed, focus on areas of significant risk to Novartis, willingness to probe and challenge, ability to provide effective, practical recommendations and open and effective communication and coordination with the Audit and Compliance Committee, the Internal Audit function and management.

PRE-APPROVAL OF AUDIT AND NON-AUDIT SERVICES

The Audit and Compliance Committee's pre-approval is required for all services provided by PwC. These services may include audit services, audit-related services, tax services and other services.

Pre-approval is detailed as to the particular services or categories of services, and is subject to a specific budget. PwC and management report, on a quarterly basis, to the Audit and Compliance Committee regarding the extent of services provided in accordance with this pre-approval and the fees for the services performed to date. The Audit and Compliance Committee may also pre-approve additional services on a case-by-case basis.

AUDITING AND ADDITIONAL FEES

PwC charged the following fees for professional services rendered for the 12-month periods ended December 31, 2011 and December 31, 2010:

	2011 USD thousands	2010 USD thousands
Audit Services	30 060	23 675
Audit-Related Services	2 480	2 140
Tax Services	1 550	1 485
Other Services	190	110
Total	**34 280**	**27 410**

Audit Services are defined as the standard audit work performed each year in order to issue opinions on the parent company and consolidated financial statements of the Group, to issue opinions relating to the effectiveness of the Group's internal controls over financial reporting, and to issue reports on local statutory financial statements. Also included are audit services that can only be provided by the Group auditor, such as auditing of non-recurring transactions and implementation of new accounting policies, audits of accounting infrastructure system controls, pre-issuance reviews of

quarterly financial results, consents and comfort letters and any other audit services required for SEC or other regulatory filings.

Audit-Related Services include those other assurance services provided by the independent auditor but not restricted to those that can only be provided by the auditor signing the audit report. They comprise amounts for services such as acquisition due diligence and related audits, audits of pension and benefit plans, IT infrastructure control assessments, contractual audits of third-party arrangements, assurance services on corporate citizenship reporting and compliance with corporate integrity agreements, and consultation regarding new accounting pronouncements.

Tax Services represent tax compliance, tax returns, assistance with historical tax matters and other tax-related services.

Other Services include training in the finance area, advice for process improvements, benchmarking studies, assessment of certain non-financial processes and license fees for use of accounting and other reporting guidance databases.

FURTHER INFORMATION

THE GROUP STRUCTURE OF NOVARTIS

NOVARTIS AG AND GROUP COMPANIES

Under Swiss company law, Novartis AG is organized as a corporation which has issued shares of common stock to investors. The registered office of Novartis AG is Lichtstrasse 35, CH-4056 Basel, Switzerland.

Business operations are conducted through Novartis Group companies. Novartis AG, a holding company, owns directly or indirectly all companies worldwide belonging to the Novartis Group. Except as described below, the shares of these companies are not publicly traded. The most important Novartis subsidiaries and associated companies are listed in Note 31 to the Group's consolidated financial statements.

DIVISIONS

The wholly-owned businesses of Novartis are divided on a worldwide basis into six operating divisions, Pharmaceuticals, Alcon (eye care), Vaccines and Diagnostics, Sandoz (generics), Over-the-Counter and Animal Health, and Corporate activities.

MAJORITY HOLDINGS IN PUBLICLY TRADED GROUP COMPANIES

76% of Novartis India Limited, with its registered office in Mumbai, India, and listed on the Bombay Stock Exchange (ISIN INE234A01025, symbol: HCBA). The total market value of the 24% free float of Novartis India Limited was USD 92.3 million at December 31, 2011, using the quoted market share price at the year end. Applying this share price to all the shares of the company the market capitalization of the whole company is USD 391.5 million.

SIGNIFICANT MINORITY HOLDINGS IN PUBLICLY TRADED COMPANIES

Novartis AG holds

- 33.3% of the bearer shares of Roche Holding AG, with its registered office in Basel, Switzerland, and listed on the SIX Swiss Exchange (Valor No. 1203211, ISIN CH0012032113, symbol: RO). The market value of the Group's interest in Roche Holding AG, as of December 31, 2011, was USD 9.45 billion. The total market value of Roche Holding AG was USD 147.4 billion. Novartis does not exercise control over Roche Holding AG, which is independently governed, managed and operated.
- 31.1% of Idenix Pharmaceuticals, Inc., with its registered office in Delaware, USA, and listed on NASDAQ (Valor No. 1630029, ISIN US45166R2040, symbol: IDIX). The total market value of the 66.48% free float of Idenix Pharmaceuticals, Inc. was USD 529.3 million at December 31, 2011, using the quoted market share price at the year end. Applying this share price to all the shares of the company the market capitalization of the whole company is USD 793.3 million. Novartis does not exercise control over Idenix Pharmaceuticals, Inc., which is independently governed, managed and operated.

INFORMATION OF OUR STAKEHOLDERS

INTRODUCTION

Novartis is committed to open and transparent communication with shareholders, financial analysts, customers, suppliers and other stakeholders. Novartis aims to disseminate material developments in its businesses in a broad and timely manner that complies with the rules of the SIX Swiss Exchange and the NYSE.

COMMUNICATIONS

Novartis publishes an Annual Report each year that provides information on the Group's results and operations. In addition to the Annual Report, Novartis prepares an annual report on Form 20-F that is filed with the SEC. Novartis discloses quarterly financial results in accordance with IFRS and issues press releases from time to time regarding developments in its businesses.

Novartis furnishes press releases relating to financial results and material events to the SEC via Form 6-K. An archive containing Annual Reports, annual reports on Form 20-F, and quarterly results releases, as well as related materials such as slide presentations and conference call webcasts, is on the Novartis Investor Relations website (www.novartis.com/investors). The archive is available on the Novartis website:
http://www.novartis.com/newsroom/media-releases/index.shtml

Information contained in reports and releases issued by Novartis is only correct and accurate at the time of release. Novartis does not update past releases to reflect subsequent events and advises against relying on them for current information.

INVESTOR RELATIONS PROGRAM

An Investor Relations team manages the Group's interaction with the international financial community. Several events are held each year to provide institutional investors and analysts various opportunities to learn more about Novartis.

Investor Relations is based at the Group's headquarters in Basel, Switzerland. A part of the team is located in New York to coordinate interaction with US investors. Information is available on the Novartis website: www.novartis.com/investors. Investors are also welcome to subscribe to a free e-mail service on this site.

WEBSITE INFORMATION

Topic	Information
Share Capital	Articles of Incorporation of Novartis AG http://www.novartis.com/corporate-governance Novartis key share data http://www.novartis.com/key-share-data
Shareholder Rights	Articles of Incorporation of Novartis AG http://www.novartis.com/corporate-governance Investor Relations information http://www.novartis.com/investors
Board Regulations	Board Regulations http://www.novartis.com/corporate-governance
Executive Committee	Executive Committee http://www.novartis.com/executive-committee
Novartis Code for Senior Financial Officers	Novartis Code of Ethical Conduct for CEO and Senior Financial Officers http://www.novartis.com/corporate-governance
Additional Information	Novartis Investor Relations http://www.novartis.com/investors

I am who I am

ANDRINA WATTS: "My mother is half-English, half-Austrian. My father's from Barbados. He was a teacher, an art teacher. It wasn't the time for mixed marriages, and for black and white people to get together when my parents got married. That was 1963.

"Born in 1967, I went to grade school, junior school (loved it), to a secondary school, then to the all-girls' school my mother had gone to. That's when I was first made aware of the color of my skin. On the third day there, I was told by this group of girls that I had to choose to sit with black people or white people, or get my head kicked in. I turned around and said, 'I'm not black and I'm not white and I don't have to do this,' then went home and waited for my mom to come from work. Still I knew I had to face them. So I went back to school the next day and said, 'No, I'm not making a choice. I am who I am. If you don't like what you see, then don't look.'

"I walked out with my exams at 16, went to college, met my husband, who's adorable, who's a duty facilities manager. Now obviously we hadn't made plans back then to have any children, then I fell pregnant. My first son was a bruiser, a watermelon. But my husband was an amazing dad, and the longer we're together, the more I love him. It's all in what you say to people, how you treat people. That's his belief. So with my mum looking after her grandson, I went back to work. Then, when I was in my 20s I got sick. I was doubled over; my lung had collapsed. They put rings in, inflated it, and discharged me from the hospital. But a week later, my lung collapsed again and they had to do surgery, because there were ulcers and blisters now growing on it.

"Ten weeks later I went back to work, making what I thought was a recovery. The doctors did recommend that, because of the condition of my lungs, I shouldn't have any more children. They said, 'We want to sterilize you,' and I agreed to it. But when I was 26, my husband really wanted to have another child, so I spoke to my GP and they agreed to try to reverse it. And it worked. I was 24 hours in labor with my second son, yet he was so worth it. About a year later I got sick again. Same thing: lung collapsed, ulcerated with blisters. I was in the hospital eight weeks, had the surgery, went home. They said they had everything sorted out, that it can't happen again. Then last September I went out one evening to this huge social event and BAM! Can't breathe in the car. I'm coughing, suffocating, and didn't know what it was.

"I'd held a full-time job for 15 years, looked after my children, used to do four or five aerobic classes a week. I used to smoke, but smoking wasn't ever the be-all of my life. If I had a couple of cigarettes a day, it would have been a miracle. Anyway, I'd arranged this massive bash for my boss, who was retiring, and had really struggled to breathe all night. My friend, I said to her, 'Could you take me home

now,' and went home thinking my breathing would start to improve. The last thing I ever wanted to do is alarm my children, my husband. I'm a real control freak and always have been. So I rang my mum who took me to my doctor. Then they put me in an ambulance, I was that ill.

"I started on different treatments, different lung function tests, till they delivered the blow that my lungs are knackered, are bad. We don't know what I had in my 20s, but six years ago I was diagnosed with COPD. I have lung function less than 32% now and have to struggle getting air in. And the air that I do get in, I struggle even more to distribute it around my body, to make my legs, my arms work. The disease, they tell me, is throughout my lungs. So where am I now? I suppose my lungs are about 70, 75 years old, maybe. I've said, 'Why me? God, why is this happening to me?' And then you know, you have the dawning, don't you? It sets in. I would drive on the M25 and think: If I drive into that lorry, how fast would I have to drive to kill myself outright? You know, it happens. People do do these things. Occasionally I still do think it now. On a bad day, when I'm run down so and can't breathe, but have to pretend that I can. Because, you know, at work, you have to be somebody else. We all do.

"Everyone at my job is fully aware of my illness. However, when the CEO says, 'Hi, Andrina, how are you doing?' I don't go, 'I can't breathe today.' I just go, 'Yeah I'm great, how you doin'?' You can't slip into that abyss of 'Oh my God! I feel so pathetically sorry for myself.'

"Funny thing, though, I had to give up high heels, which to me was a huge thing. I used to run around in work in three-and-a-half-inch heels; they were an extension of me. Oh I still buy them, just don't wear them to walk in, because when you're trying to breathe and walk, it's hard. I couldn't walk up a hill now. After 100 yards I struggle. I have portable

oxygen, which I carry in my car, but don't wear at work, because people can then have preconceived ideas about you, treat you like you can't do your job, can't function. Still, the doctors say I'm very lucky. They say, 'You're not typical. You don't fit the bill. If we hadn't had the lung function results, when we looked at you, we would have determined that you were perfectly healthy.' Back in September, what they were saying was, 'Enough is enough. You can't possibly carry on.' But for some reason, my body compensates.

"I've always had a very full life. I love my job, am passionate about what I do. I work for a company that's totally supported me, is fully aware of all of this. But still, for how much I love it here, this isn't my real world. My real world is my family. And that's what keeps me going. Being a mom and a wife. Still, you can't help but dig deeper and deeper.

"If I was 70 years old – which is where I should be with the state of my lungs – and you told me I had six, seven years to live, I would be pleased. I would actually think I were an extremely lucky bugger. But I'm 42. You give me seven years, I won't see my 50th. I won't see my grandchild go to bloody school. You know I'm very vain. I am. We all have our vanities. I don't know why I look like this, don't know why I've survived this, or why I can still work. I don't know, I think it is pure, sheer, gut determination that it's not going to beat me. It's not going to beat me."

COMPENSATION REPORT

Novartis aspires to be an employer of choice and to attract and retain best-in-class talents around the world.

Our compensation plans are designed to support our goal as a preeminent global healthcare company. They provide competitive compensation and benefits for world-class talents in a competitive market. They are aligned with our business performance objectives that are key to our sustained success while being transparent, coherent and aligned with our pay-for-performance philosophy. Our compensation system aims to encourage entrepreneurship and, at the same time, deter excessive risk-taking to enhance short-term financial gain at the expense of the long-term health of the Group.

The Compensation Report describes our compensation system, including our compensation philosophy, details on the compensation plans and the compensation paid for 2011 performance.

CONTENTS

2011 ACTIONS OF NOVARTIS AND OF THE COMPENSATION COMMITTEE

We seek to constantly innovate, to discover and develop important new medicines and vaccines, and to market them successfully to our customers. We abide by regulatory and legal requirements and operate in an ethical and transparent manner. The health benefits we offer to our consumers are our primary concern, and we put their health and safety ahead of any financial considerations. These values are embedded in the way we hire, train and compensate our employees throughout Novartis. Our compensation programs reinforce employee performance that is consistent with our purpose and aspirations and discourage behavior that is inconsistent with our values and expectations.

We consider excellent performance central to the way we do business. Best-in-class innovation helps patients and creates sustainable returns and long-term value, which in turn allow us to adequately reward our employees and shareholders, and pay taxes. Our compensation system incentivizes our organization to thrive and perform in the short and long-term without taking imprudent or unreasonable risks. Yet, the business environment ahead of us will become even more challenging. The healthcare industry is currently facing a number of critical challenges, such as the uncertainties surrounding the global debt crisis, recent substantial regulatory changes and price cuts. Simultaneously, global competition in the healthcare industry and the pressure for realizing efficiencies are increasing even further.

We are convinced that the best answer to these challenges is to focus on our primary purpose and core values and to invest to continuously deliver innovative or best price solutions for patients and customers. This also requires an increasing attention to our business efficiency and cost effectiveness. A compensation system that allows Novartis to attract the best-in-class talent and motivates associates to perform to their full potential is critical for sustainable value creation, ethical business behavior and appropriate risk taking. It also aligns the interests of our employees with those of our shareholders and stakeholders.

We intend to keep our compensation system at a state-of-the-art level and to maintain a dialogue with our stakeholders. As a result, we regularly review our compensation system, taking into account the interests and feedback of our stakeholders. This entails trade-offs, as frequent changes of the compensation system create confusion internally and externally. In our experience it takes 3 to 5 years until a large organization as ours fully understands and aligns behind a new approach.

At the 2011 Annual General Meeting, Novartis shareholders were invited to express their views on our compensation system through a consultative vote (a so-called “say on pay” vote). A majority of Novartis shareholders supported our current compensation system. We also had an opportunity to collect valuable remarks and comments in relation to our compensation system. In addition, management met with our stakeholders to engage in a fruitful dialogue after the 2011 Annual General Meeting.

On the basis of the preparatory work done by the Compensation Committee and the Corporate Governance and Nomination Committee, the Board of Directors noted and thoroughly analyzed the comments made by our shareholders in relation to the 2010 Compensation Report, with a view to identifying potential enhancements to the design, operation and disclosure of our compensation system. As a result, we have decided to further promote the long-term orientation, transparency and governance of our compensation system by taking the following steps:

- We decided to further increase comparability by providing the value of the shares and other equity instruments used for compensation purposes at the undiscounted market value used in preparing the Group’s consolidated financial statements, despite the fact that they are subject to multi-year vesting periods;
- For members of the Executive Committee, the Compensation Committee shifted the weighting of awards under its Equity Plan “Select” toward performance vesting through its Long-Term Performance Plan. For 2011, this shift between these two plans represented a reduction of the awards under the Equity Plan “Select” by 33% on average;
- We harmonized the vesting period for participants of the equity plan “Select” by increasing it to three years globally;
- We decided to disclose the actual duration of the CEO’s notice period, which is 12 months; and
- The Compensation Committee Charter was amended to reinforce the importance of risk management in our compensation system.

The Board of Directors believes that the compensation system is appropriate for Novartis given the Company’s objectives. Moreover, the Compensation Committee confirms that Novartis compensation plans for all associates (including for the Chief Executive Officer and Executive Committee members) are aligned with the healthcare industry practice.

The Members of the Compensation Committee
Marjorie M.T. Yang (chair)
William Brody
Srikant Datar
Ulrich Lehner
Enrico Vanni

For further information on the Compensation Committee organization and responsibilities, see Corporate Governance Report – Our Board of Directors – Role of the Board of Directors and the Board Committees – The Compensation Committee.

COMPENSATION OF THE BOARD OF DIRECTORS

PHILOSOPHY FOR THE BOARD OF DIRECTORS COMPENSATION

Today, the members of boards of directors of global companies face increasing responsibilities and have to deal with issues that require ever higher levels of expertise and engagement. As a global healthcare company, Novartis has appointed members of the Board of Directors who bring these required skills. Novartis has set the compensation for the members of the Board of Directors at a level that allows for the attraction and retention of high-caliber members. The members of its Board of Directors do not receive variable compensation, underscoring their focus on long-term corporate strategy, supervision and governance.

COMPENSATION STRUCTURE

	Board compensation
Fixed compensation	Yes
Variable compensation	No

COMPENSATION OF THE MEMBERS OF THE BOARD OF DIRECTORS

The Board of Directors determines the compensation of its members each year, based on a proposal by the Compensation Committee.

The compensation of the Chairman is based on a contract, which provides for Dr. Daniel Vasella a fixed remuneration of CHF 12.2 million, indexed to the average compensation increase for associates based in Switzerland. One third of his total compensation is paid out in monthly cash installments; the remaining two-thirds are in the form of unrestricted Novartis shares that are granted to him each year at the closing market price of the underlying share at the end of the day at grant date, in 2011 on January 19, 2011. Following his term as Chairman, Dr. Vasella agreed to continue to make available his know-how to Novartis and to refrain from activities that compete with any business of Novartis for a multi-year period. Dr. Vasella will receive fair market compensation in return for his services and for complying with the restriction not to compete. Dr. Vasella carries forward tradable options, shares and benefits (including pension) as a result of his 14-year tenure as our CEO. In his current capacity he receives no variable compensation, tradable options or equity other than the shares that are part of his retainer as Chairman.

The other members of the Board of Directors receive an annual fixed Board membership fee and additional fees for committee chairmanships, committee memberships, and other functions to compensate for their increased responsibilities and engagements. They do not receive additional fees for attending meetings. With the exception of the Chairman, the members of the Board of Directors can choose to receive their fees in cash, shares, or a combination of both and they receive neither share options nor pension benefits.

The fee rates for Board membership and functional roles of other members of the Board of Directors are as follows:

BOARD MEMBER ANNUAL FEE RATES (EXCL. CHAIRMAN)

	Annual fee (CHF)
Board membership	350 000
Vice Chairman	350 000
Board Committee chairmanship	10 000
Chairman's Committee membership	150 000
Audit and Compliance Committee membership	100 000
Risk Committee membership	50 000
Compensation Committee membership	50 000
Corporate Governance and Nomination Committee membership	50 000
Delegated board membership [1]	125 000

[1] The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD). The Board of Directors has delegated both Rolf M. Zinkernagel and William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

BENCHMARK

The level of pay for the members of the Board of Directors is set based on benchmarks that include the remuneration of members of board of directors of comparable healthcare companies (see also the list of benchmark companies under "Compensation of Executives and other associates – Competitive Positioning", p.126) and selected leading Swiss companies (i.e. UBS, Nestlé and Credit Suisse).

BOARD MEMBER COMPENSATION IN 2011[1]

	Board membership	Vice Chairman	Chairman's Committee	Audit and Compliance Committee	Risk Committee	Compensation Committee	Corporate Governance and Nomination Committee	Delegated board membership	Annual cash compensation (CHF) (A)	Shares (Market value) (CHF) (B)[2]	Shares (Number)	Shares (Tax value)[3]	Other (CHF) (C)	Total (CHF) (A)+(B)+(C)
Daniel Vasella	**Chair**		**Chair**	•[4]	•[4]	•[4]	•[4]		4 060 004	8 786 735[5]	160 635[5]	4 906 425[5]	654 207[6]	13 500 946[8]
Ulrich Lehner	•	•	•	•	•	•	Chair		1 110 000	–	–	–	62 650[7]	1 172 650
William Brody[9]	•					•		•	229 688	295 325	5 399	295 325	–	525 013
Srikant Datar	•		•	Chair	•	•			550 250	159 779	2 921	159 779	–	710 029
Ann Fudge	•				•		•		450 000	–	–	–	–	450 000
Pierre Landolt[10]	•						•		106 000	294 013	5 375	294 013	24 177[7]	424 190
Enrico Vanni	•			•		•			425 000	75 048	1 372	75 048	29 404[7]	529 452[8]
Andreas von Planta	•			•	Chair		•		448 000	112 026	2 048	83 712	32 685[7]	592 711
Wendelin Wiedeking	•			•	•				132 500	367 529	6 719	367 529	30 965[7]	530 994
Marjorie M.T. Yang	•					Chair			410 000	–	–	–	24 719[7]	434 719
Rolf M. Zinkernagel[11]	•						•	•	–	650 000	11 883	650 000	34 381[7]	684 381
Total[12]									**7 921 442**	**10 740 454**	**196 352**	**6 831 831**	**893 188**	**19 555 084**

See note 12 to the Financial Statements of Novartis AG for 2010 data.

[1] Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not compensation.

[2] The value of the shares reflected in this column has been calculated based on market value of the shares at grant date. All shares were granted as per January 19, 2011 against the prevailing share price of CHF 54.70.

[3] A Board member who is tax resident in Switzerland can voluntarily choose to block the shares. In 2011 Daniel Vasella blocked his shares for ten years and Andreas von Planta for five years. The value of the shares reflected in this column has been calculated using the tax value methodology described under - 2011 Compensation of the Executive Committee Members - Compensation in 2011 - Valuation Principles.

[4] Daniel Vasella attended the meetings of these Committees as a guest without voting rights.

[5] Includes 12 188 shares paid in 2011 related to the grant of 2010.

[6] Includes social security costs due by the individual and paid by the company, pension and life insurance.

[7] Includes social security costs due by the individual and paid by the company.

[8] Does not include Board member compensation granted by Alcon, Inc. until April 8, 2011.

[9] The Board of Directors has delegated William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

[10] According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of the compensation.

[11] The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD) and to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

[12] Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their compensation was reported in the 2010 Annual Report.

SHARES AND SHARE OPTIONS OWNED BY MEMBERS OF THE BOARD OF DIRECTORS

Shareholders want Board members to align their interests with the rest of the shareholders. Among other requirements, the members of the Board of Directors are thus required to own at least 5 000 Novartis shares within three years after joining the Board of Directors. As of December 31, 2011, all members of the Board of Directors who have served at least three years on the Board of Directors have complied with the share ownership guidelines.

The last year in which Novartis granted share options to non-executive members of the Board of Directors was 2002. The total number of vested and unvested Novartis shares and share options owned by members of the Board of Directors and "persons closely linked"[1] to them as of January 19, 2012, is shown in the following tables.

As of January 19, 2012, none of the members of the Board of Directors together with "persons closely linked"[1] to them owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

[1] "Persons closely linked" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary.

SHARES OWNED BY BOARD MEMBERS

	Number of shares[1,2]
Daniel Vasella	3 306 730
Ulrich Lehner	22 193
William Brody	10 532
Srikant Datar	20 263
Ann Fudge	7 008
Pierre Landolt[3]	40 442
Enrico Vanni	4 839
Andreas von Planta	111 628
Wendelin Wiedeking	40 901
Marjorie M.T. Yang	18 000
Rolf M. Zinkernagel	34 683
Total[4]	**3 617 219**

[1] Includes holdings of "persons closely linked" to Board members (see definition under – Share and Share Options by Members of the Board of Directors).
[2] Each share provides entitlement to one vote.
[3] According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all shares.
[4] Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their holdings were reported in the 2010 Annual Report.

SHARE OPTIONS OWNED BY BOARD MEMBERS

	Number of share options[1]
Daniel Vasella	2 433 290[2]
Ulrich Lehner	
William Brody	
Srikant Datar	
Ann Fudge	
Pierre Landolt	
Enrico Vanni	
Andreas von Planta	
Wendelin Wiedeking	
Marjorie M.T. Yang	
Rolf M. Zinkernagel	
Total[3]	**2 433 290**

[1] Includes holdings of "persons closely linked" to Board members (see definition under – Share Ownership – Ownership Guidelines). The last year in which Novartis granted share options to non-executive Board members was in 2002. All these options have expired in 2011.
[2] Includes options awarded during Daniel Vasella's tenure as Chairman and CEO.
[3] Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their holdings were reported in the 2010 Annual Report.

LOANS AND OTHER PAYMENTS TO MEMBERS OF THE BOARD OF DIRECTORS

LOANS TO MEMBERS OF THE BOARD OF DIRECTORS

No loans were granted to current or former members of the Board of Directors during 2011. No such loans were outstanding as of December 31, 2011.

OTHER PAYMENTS TO MEMBERS OF THE BOARD OF DIRECTORS

During 2011, no payments (or waivers of claims) other than those set out in the Board Member Compensation table p.117 were made to current members of the Board of Directors or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors – Shares and Share Options Owned by Members of the Board of Directors").

PAYMENTS TO FORMER MEMBERS OF THE BOARD OF DIRECTORS

During 2011, no payments (or waivers of claims) were made to former Board members or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors – Shares and Share Options Owned by Members of the Board of Directors"), except for an amount of CHF 62 346 that was paid to the Honorary Chairman and for social security arrears of CHF 1 129 that were paid in favor of a former member of the Board of Directors.

COMPENSATION OF EXECUTIVES AND OTHER ASSOCIATES

PHILOSOPHY, GOALS AND COMPENSATION PRINCIPLES

PHILOSOPHY AND GOALS

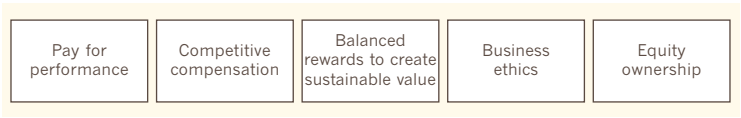
Since Novartis was created, management has forged a distinctive culture and inspired all associates with the shared aspiration of being one of the world's most respected healthcare companies. In order to realize this vision, Novartis must attract and retain the best-in-class talents worldwide and reward associates according to their performance.

Our compensation system aims to foster personal accountability based on clear individual and organizational objectives, and also underlines the importance of competence and integrity as drivers of sustainable business success. Consequently, compensation includes, in addition to a fixed base compensation and benefits, a significant variable compensation element. The size of the variable compensation element is based on Group or divisional results and on individual performance against a written set of objectives. Moreover, to further align our compensation programs with the interests of shareholders, a large proportion of variable compensation for executives is paid in the form of equity – Novartis shares (or similar equity instruments) or share options with a three-year vesting period.

The core principles of our compensation policy and people development have resulted in both sustained performance and superior leadership. Novartis has reported record net sales and net income – and raised the annual dividend payout to shareholders – for 15 consecutive years.

COMPENSATION PRINCIPLES

The compensation system for Novartis associates is based on the following five principles:



Principle I: Pay for Performance

Compensation of executives and associates is strongly linked to achievements of business and individual performance objectives. The objectives are set at ambitious levels each year to motivate a high degree of business performance with emphasis on short- and long-term quantifiable objectives. Appropriate objective setting, combined with proper incentive plan design and a balance between annual and long-term variable compensation, allows our leaders and associates to focus on shaping the future, rather than simply maximizing short-term profits.

Principle II: Competitive Compensation

Compensation opportunities at competitive levels are essential to attract and retain talented and diverse associates. Our target compensation levels reflect total compensation for comparable positions at relevant benchmark companies.

Principle III: Balanced Rewards to Create Sustainable Value

Shareholders expect their investment to deliver sustainable returns while ensuring that risks are appropriately managed. Novartis incentives underpin the long-term strategic planning that is essential to address the challenges of innovation and the long development and commercialization cycles that characterize our industry. We believe that the way in which we motivate and reward our associates encourages performance, loyalty and entrepreneurship, and creates sustainable value which is in the long-term interest of our shareholders, employees and communities.

Principle IV: Business Ethics

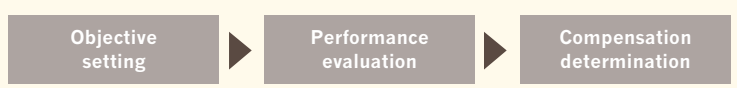
At Novartis, all associates are expected to achieve their business results through ethical practices, reflected also in our Code of Conduct. To ensure that these requirements are complied with, Novartis has implemented a number of safeguards, such as a stringent risk management policy and clawback provisions, for most compensation plans and for the majority of associates.

Principle V: Equity Ownership

Investors expect the leaders of the companies they invest in to act like owners. In the Board of Directors' view, that alignment works best when key executives have meaningful multiples of their base compensation invested in the equity of their company. Novartis grants equity compensation, which for the most senior executives represents a substantial portion of total compensation. Under this principle, Novartis sets share ownership guidelines for a number of key executives of the Group.

PERFORMANCE EVALUATION SYSTEM

To foster a high performance culture, Novartis applies a uniform People Performance Management process worldwide, based on quantitative and qualitative criteria, including Novartis Values and Behaviors. Novartis associates, including the CEO and Executive Committee members, are subject to a three-tier formal process:
– Objective setting;
– Performance evaluation; and
– Compensation determination.



OBJECTIVE SETTING

Objective setting for the CEO

At the beginning of a business year, the Chairman meets with the CEO to discuss his objectives for the coming year following a balanced scorecard approach. The Board of Directors reviews and approves these objectives and ensures that they are in line with the Group's goals of fostering sustainable performance, balancing short- and long-term goals, and not rewarding inappropriate or excessive risk taking at the expense of the Group's health.

The financial criteria for short-term performance appraisal of the CEO typically include growth objectives for net sales, operating income, net income, free cash-flow and earnings per share. For long-term performance appraisal, the financial criterion is the Novartis Economic Value Added (NVA). The NVA measures group profits taking into account the cost of capital or, more simply, the value created in excess of the required return of the company's investors (i.e. the sharehold-

ers and debt holders) (see also Note 26 to the Group's audited consolidated financial statements for information regarding the NVA).

Objective setting for members of the Executive Committee and associates

At the beginning of each performance year, the CEO and each of the executives directly reporting to him determine together the business objectives and respective metrics applicable to each of the divisional and global functional leaders. In the same manner, each line manager and each associate directly reporting to her or him set the objective and metrics applicable to the next-level associate. As a principle, all written objectives are reviewed by two hierarchical levels, including the direct and the indirect supervisors.

The business objectives are measured against key performance metrics, while the individual performance is derived from the business objectives established at the Group, division, function, country or business area levels.

BUSINESS PERFORMANCE METRICS

Net sales	Innovation
Operating income	People and organizational development
Free cash flow	Organizational effectiveness and productivity
Market share	

These financial and operational metrics have been selected because they define in a balanced way how successful we are in meeting our strategic objectives and creating sustainable value to our shareholders.

Depending on functional responsibility, non-financial objectives typically include research and development performance; product launches; successful implementation of growth and productivity initiatives; process improvements; leadership and people management and successful acquisitions, disposals and licensing transactions.

Objectives are set each year at ambitious levels to motivate a high degree of business performance appropriately balancing the short- and long-term objectives.

Decisions and actions leading to results must be consistent with Novartis Values and Behaviors, which describe the desired conduct of associates and set boundaries and guidelines as an important building block for the culture of our Group. The Novartis Values and Behaviors provide a focus on quality, commitment, candor, compassion, loyalty and integrity.

Novartis does not disclose specific business objectives for the upcoming year because they often constitute business secrets, the disclosure of which would signal areas of strategic focus and impair the Group's ability to leverage these areas for competitive advantage. For example, disclosure of our cash-flow objectives would provide insight into timing of large capital investments or acquisitions. In addition, knowledge of the objectives could be used by competitors to recruit key executives from Novartis. Disclosing specific objectives and metrics would also give our competitors insight into key market dynamics and areas that could be used against Novartis competitively by industry consultants or competitors targeting existing customers.

PERFORMANCE EVALUATION

Our performance management system and "pay for performance" principle have spurred a culture of meritocracy at Novartis. We believe that pay for performance is only sustainable when fair performance evaluation procedures ensuring integrity and fairness are in place. Performance evaluation is conducted at all levels of the organization.

The people performance management evaluation process consists of two reviews per year – a mid-year and a year-end review. During such formal meetings, associates and managers evaluate performance against the objectives set at the beginning of the year. In assessing performance, managers focus on results-oriented measures, as well as on how results were achieved. The "four eyes" rule ensures that associates' annual objectives and performance evaluations are reviewed separately by two levels of supervisors.

Process for performance evaluation of the CEO

At the end of a business year, the CEO prepares and presents to the Chairman and the Board of Directors a self-appraisal assessing actual results against the previously agreed-upon objectives, taking into account the audited financial results as well as Novartis Values and Behaviors. Subsequently, the Board of Directors discusses the self-appraisal without the CEO being present. It evaluates the extent to which targeted objectives have been achieved and, to the extent possible, compares these results with peer industry companies, taking into account general economic and financial criteria and industry developments. The Board of Directors later shares its appraisal with the CEO.

Process for performance evaluation of members of the Executive Committee

In January, the Board of Directors meets with the CEO to review and discuss the performance and objectives of the Executive Committee members for the previous year, taking into account the financial results, the level of achievement of financial and non-financial objectives, as well as Novartis Values and Behaviors and the general economic and business environment. In addition to the year-end review, the mid-year performance of the CEO is reviewed by the Chairman while the results of the other Executive Committee members are evaluated by the CEO and then discussed with the Chairman.

Talent Review

Our People Performance Management evaluation process is complemented with an annual Organization and Talent Review in which organizational needs and career aspirations of associates are discussed. The review includes the assessment of strengths, weaknesses and potential for growth. The Organization and Talent Review has become an integral tool for top management in succession planning, and the scope of the program has steadily expanded from a few dozen executives a decade ago to almost 25 000 prospective leaders today.

Because performance appraisals impact significant elements of reward, we ensure each year that there is consistency of performance ratings across the entire Group.

COMPENSATION DETERMINATION

Compensation determination for the CEO

Based on the performance evaluation appraisal made by the Board of Directors, the Compensation Committee decides at its January meeting on the CEO's total compensation and the target compensation for the coming year without the presence of the CEO. In reaching its decision, the Compensation Committee takes into account other relevant factors, including available benchmark information and the advice of the Compensation Committee advisor.

Compensation determination for the Executive Committee members

In the presence of the CEO and based on his recommendations, the Compensation Committee decides on the variable compensation for the other Executive Committee members and other selected key executives for the previous year. At the same meeting, the Compensation Committee decides on the target compensation for these executives for the coming year.

Compensation determination for other associates

Based on the year-end performance rating, line managers and next-level line managers determine the incentive awards for each associate under review, as well as the target compensation for the coming year. The Compensation Committee determines the grants for all equity compensation plans in aggregate.

ELEMENTS OF OUR COMPENSATION PROGRAMS

The primary elements of our compensation system are:

– Annual base compensation – A fixed annual salary
– Variable compensation – Rewards for individual and business performance
– Benefits – Including pension and healthcare benefits

COMPENSATION ELEMENTS

ANNUAL BASE COMPENSATION (SALARY)

The level of base compensation reflects each associate's key areas of responsibilities, job characteristics, seniority, experience and skill sets. It is paid in cash, typically monthly, and is set according to local practice, designed to provide our associates with fixed compensation to ensure a reasonable standard of living relative to that offered by our peer companies.

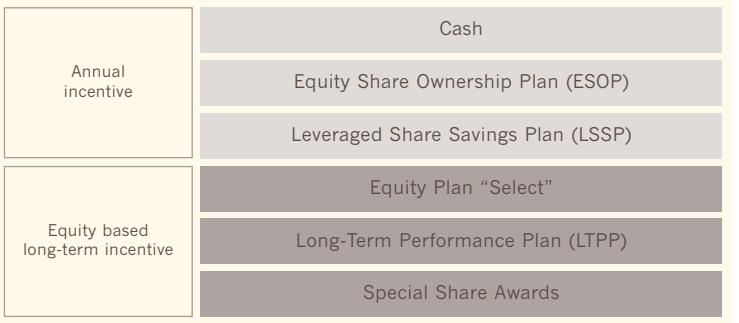
In general, base compensation is reviewed annually to ensure that competitive pay is maintained.

VARIABLE COMPENSATION

The goal of variable compensation is to reward Novartis associates according to their performance and in a manner consistent with the "pay for performance" principle.

At lower levels, variable compensation is paid in cash, while at managerial levels, variable compensation is generally composed of annual cash incentive and an equity based long-term incentive. Novartis believes that variable compensation should specifically emphasize long-term incentives to align the interests of our associates with those of long-term shareholders. This also reflects the crucial importance of innovation and the long product development and commercialization cycles that characterize our industry. The amount of variable compensation is based on results and calculated as a percentage (0-200%) of target variable compensation.

VARIABLE COMPENSATION



ANNUAL INCENTIVE

The annual incentive ensures that the associates focus on individual objectives and objectives defined by the business over a single financial year. These objectives include objectives as market share, innovation, and people management, which also positively influence the long-term performance. It rewards performance in the last 12 months in relation to these objectives and reinforces the "pay for performance" principle.

In principle, the annual incentive is paid in cash and is capped at 200% of target. However, a number of associates in certain countries and certain key executives worldwide are encouraged to invest their annual incentive in a share savings plan. Under the share savings plan, they will receive their annual incentive awards fully or partially in Novartis shares in lieu of cash. As a reward for their participation in the share savings plan, Novartis matches their investments in shares after a holding period of three or five years. As a rule, no shares are matched under these plans if an associate leaves Novartis prior to the expiration of the holding period for reasons other than retirement, disability or death. Thus, through the participation in the share savings plan our associates are incentivized to remain with Novartis in the long-term, while sharing in the future financial success of Novartis and further aligning with the long-term interests of our shareholders.

Novartis currently has three share savings plans:

– *Employee Share Ownership Plan (ESOP):* In Switzerland, the ESOP is available to about 12 688 associates. Participants within this plan may choose to receive the incentive (i) 100% in shares, (ii) 50% in shares and 50% in cash or (iii) 100% in cash. After expiration of a three-year holding period of Novartis shares invested under the ESOP, each participant will receive one free matching share for every two Novartis shares invested. A total of 5 050 associates chose to receive shares under the ESOP for their performance in 2011.
– *United Kingdom Plan*: In the United Kingdom, 2 790 associates can invest up to 5% of their monthly salary in shares (up to a maximum of GBP 125) and also may be invited to invest all or part of their net annual incentive in shares. Two invested shares are matched with one share with a holding period of three years. During 2011, about 1 870 associates elected to participate in this plan.
– *Leveraged Share Savings Plan (LSSP)*: Worldwide 30 key executives were invited to participate in a leveraged share savings plan based on their performance in 2011. Instead of cash, their annual incentive was awarded in shares and subject to a holding period of five years. At the end of the holding period, Novartis will match the invested shares at a ratio of 1-to-1 (i.e. one share awarded for each invested share).

Associates may only participate in only one of these plans in any given year.

EQUITY BASED INCENTIVES

The long-term incentive is designed to focus on our objective of long-term sustainable shareholder value creation and to support our "pay for performance" principle by using equity based compensation with a three year vesting period.

These long-term incentives awarded by Novartis aim at retaining our key talents, encouraging the realization of multi-year business objectives and aligning our associates with our shareholders' interests by tying the value realized to the change in the share price at vesting.

The equity based long-term incentive is subject to the achievement of predetermined performance objectives either at grant or at vesting.

Novartis offers two long-term incentive plans, the Equity Plan "Select" based on yearly results with a vesting period of three years and the Long-Term Performance Plan based on the average results of a three-year period.

In exceptional cases, Novartis may also grant special share awards.

Equity Plan "Select"

The Equity Plan "Select" is a global equity incentive plan under which all associates, including Executive Committee members, may annually be eligible for a grant, which is capped at 200% of target. The Equity Plan "Select" allows its participants to choose the form of their equity compensation in restricted shares (or, in some jurisdictions, RSUs[1]), tradable share options, or a combination of both, with a vesting period of three years.

Tradable share options expire on their 10th anniversary from grant date. Each tradable share option granted to associates entitles the holder to purchase after vesting (and before the 10th anniversary from grant date) one Novartis share at a stated exercise price that equals the closing market price of the underlying share at the grant date January 19, 2012.

[1] In some jurisdictions, RSUs are granted rather than shares. Each RSU is equivalent in value to one Novartis share and is converted into one share at the vesting date. RSUs do not carry any dividend or voting rights, except for USA where employees receive a dividend equivalent during the vesting period for 2009 and 2010 grants. Each restricted share is entitled to voting rights and payment of dividends during the vesting period.

The terms of the tradable share options granted since 2008 are shown in the table below.

TERMS OF SHARE OPTIONS

Grant year	Exercise price (CHF/USD)	Vesting (years) (CH/other countries)	Term (years)
2012	54.20/58.33	3/3	10
2011	54.70/57.07	2/3	10
2010	55.85/53.70	2/3	10
2009	53.65/46.42	2/3	10
2008	64.05/57.96	2/3	10

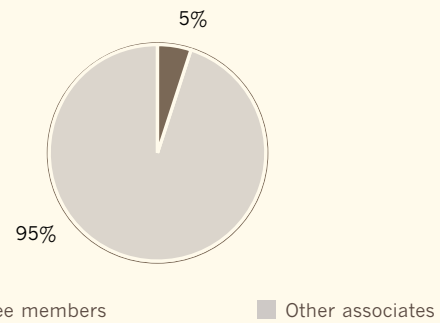
If a participant leaves Novartis for reasons other than retirement, disability or death, unvested shares, RSUs and share options are forfeited, unless determined otherwise by the Compensation Committee (for example, in connection with a reorganization or divestment). In Switzerland, the participants in this plan can choose between restricted shares or RSUs and tradable share options, or a combination of both.

A total of 12 768 participants received 1.0 million restricted shares, 6.5 million RSUs and 23.9 million tradable share options under the Novartis Equity Plan "Select" for their performance in 2011, representing a participation rate of about 10% of all full-time-equivalent associates worldwide.

As of December 31, 2011, 94 million tradable share options granted to associates were outstanding, covered by an equal number of shares and corresponding to 3.9% of the total number of outstanding Novartis shares.

Approximately 5% of the total equity value awarded under the Equity Plan "Select" was granted to the members of the Executive Committee.

2011 EQUITY VALUE AWARDED UNDER THE EQUITY PLAN "SELECT"



Long-Term Performance Plan

The Long-Term Performance Plan (LTPP) is an equity plan for key executives designed to foster long-term commitment by aligning the incentives of key executives to the performance of Novartis. The LTPP is offered to selected executives, who are in key positions and have a significant impact on the long-term success of Novartis. It is capped at 200% of target. For members of the Executive Committee, LTPP represents between 20% and 45% of their total variable compensation at target. The rewards are based on pre-determined rolling three year global performance objectives focused on the Novartis Economic Value Added (NVA) measured annually. The NVA is calculated based on Group operating income adjusted for interest, taxes and cost of capital charge. The performance realization of a plan cycle is obtained right after the end of the third plan year by adding together the annual NVA realizations of all plan years of the plan cycle. The performance ratio for a plan cycle is obtained by dividing the performance realization for the plan cycle with the performance target for the plan cycle, expressing the result as a percentage. The LTPP only allows a payout if the actual NVA exceeds predetermined target thresholds.

To support the alignment of our Executive Committee members' interests with those of the Group and our shareholders, the Long-Term Performance Plan represents a substantial and increasing fraction of Executive Committee members' variable compensation targets relative to incentives based on performance during a single year.

On January 19, 2012, 138 key executives were awarded 464 230 shares under the Long-Term Performance Plan, based on NVA achievement that exceeded our target performance for the performance period 2009 to 2011.

LONG-TERM PERFORMANCE PLAN PARTICIPANTS HISTORY

Grant year = Target setting	Performance period	Award year = Payout in shares	Plan participants (number of key executives)
2012	2012–2014	2015	139
2011	2011–2013	2014	139
2010	2010–2012	2013	142
2009	**2009–2011**	**2012**	**138**
2008	2008–2010	2011	117

VARIABLE COMPENSATION TARGET AND AWARD CALCULATION FORMULA

Annual incentive and Equity Plan "Select"

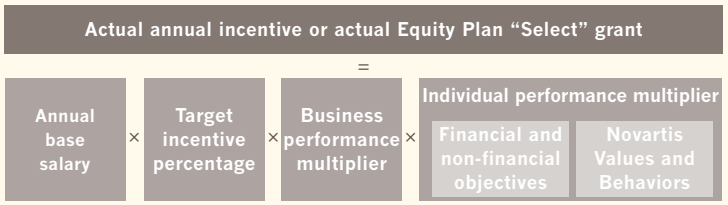
Under these plans, Novartis defines a target incentive as a percent of base compensation for each participating associate at the beginning of each performance period – traditionally the start of a calendar year. Depending on the role and the level of responsibility of the associates, target incentive percentages may reach up to 60% of

base compensation for the annual incentive and 200% for the Equity Plan "Select".

The amount of the incentive under both the annual incentive and the Equity Plan "Select" is determined on the basis of business and individual performance. No awards are granted for performance ratings below a certain threshold.

The Award Calculation Formula under both the annual incentive and the Equity Plan "Select" is the following:

ANNUAL INCENTIVE AND EQUITY PLAN "SELECT" CALCULATION FORMULA



The business and the individual performance multipliers have thus an equivalent weighting in the formula. The business performance multiplier is based on the performance of the Group or business area and may range from zero to 1.5.

The individual performance multiplier is based on achievement of individually set financial and non-financial objectives as well as meeting key behavioral standards, the Novartis Values and Behaviors. It may range from zero to 1.5. For the purpose of calculating the individual performance multiplier, the individually set financial and non-financial objectives and the Novartis Values and Behaviors have an equivalent weighting.

The business performance multiplier, combined with the individual performance multiplier, is subject to a cap at 200% of the target incentive.

This broad range of incentive percentages and multipliers allows for meaningful differentiation on a "pay for performance" basis.

For those who have chosen to receive their annual incentive under the ESOPs or LSSP plans, as well as for those receiving awards under the Equity Plan "Select" the number of shares awarded is determined by dividing the actual incentive amount by the closing price of the shares on the grant date. In North America, if associates choose to receive part or all of their grant under the Equity Plan "Select" in tradable share options on American Depositary Shares (ADSs), the resulting number of tradable share options is determined by dividing the respective incentive amount by a value that equals 95% of the value of the options on ADSs as determined in accordance with International Financial Reporting Standards (IFRS). For associates in other countries, the divisor equals 90% of the IFRS value of options on shares.

Typically, the annual incentive is paid out in February following the realization of the yearly objectives.

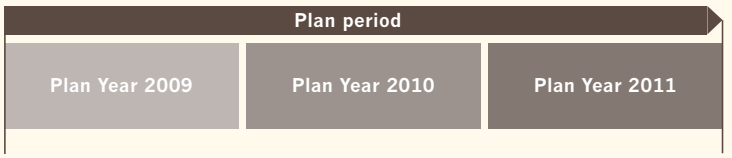
The three-year vesting of the Equity Plan "Select" is contingent on continued employment with Novartis.

Long-Term Performance Plan

In the case of the LTPP, the performance objective (NVA) is determined over a three-year period commencing on January 1 of each grant year.

At the beginning of the performance period, plan participants are allocated RSUs, which will be converted into Novartis shares after the performance period.

LONG-TERM PERFORMANCE PLAN PERIOD



At the end of the three-year performance period, the Compensation Committee adjusts the number of RSUs earned based on actual performance. RSUs are converted into unrestricted Novartis shares without an additional vesting period. In the United States, awards may also be delivered in cash under the US deferred compensation plan.

LONG-TERM PERFORMANCE PLAN PAYOUT

Depending on the role and the level of responsibility of the associates, the target incentive percentages may reach up to 175% of base compensation for LTPP. For outstanding NVA performance, the adjustment can go up to a maximum of 200% of the target incentive. No incentive is awarded if actual NVA performance fails to meet a predetermined threshold (or if the participant leaves Novartis during the performance period for reasons other than retirement, disability or death).

SPECIAL SHARE AWARDS

Selected associates may exceptionally receive special awards of restricted shares or RSUs. These Special Share Awards provide an opportunity to reward outstanding achievements or exceptional performance and aim at retaining key contributors. They are based

on a formal internal selection process, in which the individual performance of each candidate is thoroughly assessed at several management levels. In addition, Special Share Awards may also be granted to attract special expertise and new talents into the organization. These grants are consistent with the Novartis philosophy to attract, retain and motivate best-in-class talents around the world.

Restricted special awards generally have a five-year vesting period. If an associate leaves Novartis for reasons other than retirement, disability or death, unvested shares or RSUs are generally forfeited. Worldwide 597 associates at different levels in the organization were awarded a total of 1.5 million shares or RSUs in 2011.

SOURCE OF AWARDED SHARES

Novartis uses shares repurchased in the market to fulfill obligations to deliver shares as required by the variable compensation plans and special share awards, thus avoiding any dilution of shareholders.

Novartis does not have any approved conditional capital to obtain shares for delivery of our share awards.

BENEFITS

The primary purpose of pension and healthcare plans is to establish a level of security for associates and their dependents with respect to age, health, disability and death. The level of pension and healthcare benefits provided to associates is country-specific and influenced by local market practice and regulations, and is reviewed regularly.

The Group has a policy to change from defined-benefit pension plans (DB) to defined contribution-pension plans (DC). All the major plans have now been aligned with our benefits strategy with the exception of the Alcon DBs, for which Novartis has established a global timeline for their conversion into DCs.

Novartis may provide other benefits in a specific country according to local market practice and regulations, including length-of service awards and perquisites. Associates who have been transferred on an international assignment can also receive benefits in line with Novartis policies.

EXECUTIVE COMPENSATION SUMMARY

Compensation element	Compensation plan	Performance period	Method of payments	Main drivers	Performance metrics: At award	Performance metrics: At vesting	Number of participants
Base compensation	Base salary	–	Cash	Position, experience, sustained performance	–	–	All associates
Variable compensation							
Annual incentive	Cash or shares (ESOP, ESOP UK, LSSP) [1]	12 months [1]	Cash and/or shares	Financial measures such as net sales, operating income, free cash flow, market share, innovation and ongoing efforts to optimize organizational effectiveness and productivity	Achievement of individual, business and financial annual objectives or achievement of milestones in individual objectives or long-term strategic plans, Novartis Values and Behaviors	–	15 508
Long-term incentive	Equity Plan "Select"	from 3 to 10 years [2]	Restricted shares or RSUs	Financial measures such as net sales, operating income, free cash flow, market share, innovation and ongoing efforts to optimize organizational effectiveness and productivity	Achievement of individual, business and financial annual objectives or achievement of milestones in individual objectives or long-term strategic plans, Novartis Values and Behaviors	Share price	12 768
	Long-Term Performance Plan	3 years	Shares	Achievement of long-term profit, measured through Novartis Economic Value Added (NVA) targets at Group level	–	Novartis Value Added	138
	Special Share Awards	5 years	Restricted shares or RSUs	Rewarding particular achievements or exceptional performance	Selective assessment	Share price	597
Benefits				Position, experience, age, sustained performance	–	–	

[1] If the associate invests the annual incentive into a shares savings plan, the vesting/holding period will be three years (ESOP) or five years (LSSP).
[2] Three years for restricted share and/or RSUs. Ten years for tradable options.

COMPETITIVE POSITIONING

It is critical for Novartis to have competitive compensation plans at a global level. According to Novartis compensation philosophy, an associate who achieves his or her performance objectives is thus generally awarded compensation comparable to the median level of compensation provided by relevant benchmark companies. In case of over- or under-performance, the actual total compensation delivered is adjusted accordingly and may significantly differ from the benchmark median. To encourage and reward sustained superior performance, total compensation may, in case of exceptional performance, reach levels comparable to top-quartile levels of compensation offered by the relevant benchmark companies.

Novartis participates in several compensation benchmarking surveys that provide details on levels of salary, target and actual annual incentives and long-term incentives, the relative mix of short- and long-term incentives, and the mix of cash- and share-based compensation. For Executive Committee positions and for specific pharmaceutical positions, the benchmark group of industry competitors for our 2011 benchmark survey consisted of the following companies, which are all operating on a global level within the healthcare industry and having relevant business models, similar size, international needs, or similar talent skill sets:

BENCHMARK GROUP COMPANIES

Abbott Laboratories	Eli Lilly and Company	Pfizer
Amgen	GlaxoSmithKline	Roche
AstraZeneca	Johnson & Johnson	Sanofi
Bristol-Myers Squibb	Merck & Co.	

Benchmark criteria	Novartis	Healthcare Peers Median
Revenue [1]	50 624	40 249
Market Cap [1]	133 731	74 145
Net income [1]	9 969	5 070
Profit Margin	19.7%	12.6%
Employees	119 418	90 000

[1] In mio USD
Source: Equilar

For benchmarking other positions we include companies outside our industry, with stature, size, scope and complexity that approximate our own to recognize the fact that competition for senior executive talent is not limited to the healthcare industry.

The geographic scope of the benchmark companies depends on the nature of the positions. As a principle, global benchmarks are considered for the most senior executive positions, while regional and/or local benchmarks are applied in other situations. The compensation benchmarking surveys, which analyze factors such as recent market trends and best practices, are conducted by well-established global compensation consultancy firms. These surveys are checked and supplemented by input from the Compensation Committee's independent advisor. According to such surveys, projected 2012 merit salary increases for executives will be relatively modest, but will mainly depend on the demand for talents. Although target annual incentives and long-term incentives as a percentage of salary are expected to be relatively flat versus the previous year, the actual incentive or grants will be based on the achieved performance.

SAFEGUARDS

We believe that incentivizing our associates encourages performance, loyalty and entrepreneurship, and creates sustainable value that is in the interest of Novartis and our shareholders. However, shareholders also expect that risks are appropriately managed. At Novartis, appropriate objective setting combined with proper incentive-plan design and rigorous safeguard measures allow our leaders and associates to focus on long-term value creation.

RISK MANAGEMENT

The goal of our compensation system is to encourage high performance and entrepreneurship, but not to reward inappropriate or excessive risk taking or short-term profit maximization at the expense of the long-term health of Novartis. The following characteristics of our compensation system foster a culture of entrepreneurial risk management:

- Novartis Values and Behaviors: Compliance and ethical conduct are integral factors considered in all regular performance reviews, setting clear behavioral boundaries.
- People Performance Management Process: A rigorous People Performance Management process is in place based on agreed-upon objectives, values and behaviors reflecting compliance and meritocracy.
- Balanced Scorecard Approach to Performance-based Incentives: The annual and long-term incentive compensation plans are not overly focused on any single measure of performance. Instead, financial objectives include net sales, operating income, free cash flow as a percentage of sales, and Novartis Economic Value Added (NVA). Non-financial objectives emphasize the achievement of strategic and leadership objectives, and managing people, but also innovation as well as process and productivity improvement. Under the incentive plans, performance multipliers may not exceed 200%.
- Balanced Mix of Compensation Elements: The target compensation mix is not overly weighted toward annual incentive awards but represents a combination of cash and long-term share-based compensation vesting over three years.

– Performance Period and Vesting Schedules: For long-term incentives, performance period and vesting schedules overlap, reducing the motivation to maximize performance in any one period. The equity awarded under the Equity Plan "Select" vests after a period of three years. The Long-Term Performance Plan is an equity plan based on a three-year performance period.
– Clawback: We implemented "clawback" provisions in individual employment contracts of all Executive Committee members as well as in most incentive plans, and award letters to associates (see – "Safeguards – Clawback", on p.128).
– No Severance Payments or Change-of-Control Arrangements: No employment contracts with Executive Committee members contain unusually long notice periods, change-of-control clauses or severance payments. The CEO employment agreement can be terminated upon a 12-month notice period.
– Share Ownership requirements: Members of the Executive Committee, as well as selected key executives are required to own a certain multiple of their annual base salary in Novartis shares or share options (see – "Share Ownership Requirements" on p.128).

COMPENSATION GOVERNANCE

Legal Framework

The Swiss Code of Obligations as well as the Corporate Governance Guidelines of the SIX Swiss Exchange require listed companies to disclose certain information about the compensation of members of the Board of Directors and Executive Committee members, their equity participation in the Group as well as loans made to them. This Annual Report fulfills that requirement. In addition, our Annual Report is in line with the principles of the Swiss Code of Best Practice for Corporate Governance of the Swiss Business Federation (economiesuisse).

Decision-making authorities

Authority for decisions related to compensation are governed by the Articles of Incorporation, the Board Regulations and the Compensation Committee Charter, which are published on the Novartis website: www.novartis.com/corporate-governance. The main responsibilities of the Compensation Committee are shown under "Corporate Governance Report – Our Board of Directors – Role of the Board of Directors and the Board Committees".

The Compensation Committee serves as the supervisory and governing body for compensation policies and plans within Novartis and has overall responsibility for determining, reviewing and proposing compensation policies and plans for approval by the Board of Directors in line with the Compensation Committee Charter. The main discussion points and conclusions of each meeting of the Compensation Committee are summarized in a brief report to the next meeting of the full Board.

The Compensation Committee carefully analyzes and discusses on an ongoing basis (but at least annually) the trends and developments in the field of compensation and corporate governance as well as all compensation plans and levels with guidance from outside experts and consultants. The goal is to strengthen the interrelation between the compensation plans and the Group's performance. It also reviews the compensation system to ensure that it does not encourage inappropriate or excessive risk taking and instead encourages behaviors that support sustainable value creation.

The Compensation Committee is composed exclusively of members of the Board of Directors who meet the independence criteria set forth in our Board Regulations. Currently, the Compensation Committee has the following five members: Marjorie M.T. Yang (chair), William Brody, Srikant Datar, Ulrich Lehner and Enrico Vanni.

In 2011, the Compensation Committee held five meetings.

COMPENSATION AUTHORIZATION LEVELS

Decision on	Recommendation	Authority
Compensation of Board members	Compensation Committee	Board of Directors
Compensation of the Chief Executive Officer	Chairman of the Board	Compensation Committee
Compensation of the other Executive Committee members and other selected key executives	Chief Executive Officer	Compensation Committee
Special Share Awards	Chairman of the Board or Chief Executive Officer	Compensation Committee

The General Meeting holds a consultative vote on the Compensation System of Novartis. This vote takes place before every significant change to the Compensation System, but at least every third Annual General Meeting.

ROLE OF THE COMPENSATION COMMITTEE INDEPENDENT ADVISORS

The advisor to the Compensation Committee is independent of management and does not perform any other consulting work for Novartis. The key task of the advisor is to assist the Compensation Committee in ensuring that the Novartis compensation policies and plans are competitive, correspond to market practice, and are in line with our compensation principles.

The Compensation Committee enters into a consulting agreement with its independent advisor on an annual basis. In determining whether or not to renew the engagement with the advisor, the Compensation Committee evaluates the quality of the consulting service and the benefits of rotating advisors. In addition, the Compensation Committee assesses on an annual basis the projected scope of work for the coming year. The Compensation Committee

used Pearl Meyer & Partners LLC as its independent external compensation advisor and decided that after several years of service a new advisor should be hired. The Compensation Committee designated a new advisor, Frederic W. Cook & Co, Inc., in October 2011.

The Compensation Committee determined that the advisor is free of any relationship that would impair professional judgment and advice to the Compensation Committee, and has never been hired for work by the management of Novartis.

CLAWBACK

Any incentive compensation paid to certain key executives, including Executive Committee members, is subject to "clawback". This means that Novartis may choose not to pay future incentive compensation or seek to recover incentive compensation where the payout has been proven to conflict with internal management standards (including company policies and Novartis Values and Behaviors), accounting procedures or a violation of law.

SHARE OWNERSHIP REQUIREMENTS

In line with our share ownership principle, key executives are required to own at least a certain multiple of their annual base salary in Novartis shares or share options. The CEO is required to own Novartis equity worth 5 times, the other Executive Committee members 3 times, and other key executives, 1 to 2 times (position-specific) their respective base compensation within three years of hire or promotion. In the event of a substantial drop in the share price, the Board of Directors may, at its discretion, extend that time period.

CEO	5 x base salary
Executive Committee members	3 x base salary
Selected key executives	1 x or 2 x base salary

In determining equity amounts against the share ownership requirement includes vested and unvested shares or ADSs acquired under the Novartis compensation plans, as well as RSUs thereof, with the exception of unvested matching RSUs from leveraged share savings plans and unvested RSUs from the Long-Term Performance Plan. In addition, it includes other shares as well as vested options on Novartis shares or ADSs that are owned directly or indirectly by "persons closely linked"[1].

The Compensation Committee reviews compliance with the share ownership guideline on an annual basis.

[1] "Persons closely linked" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary.

2011 COMPENSATION OF THE MEMBERS OF THE EXECUTIVE COMMITTEE

PERFORMANCE IN 2011

At its meeting on January 19, 2012, the Compensation Committee decided on the amounts of variable compensation for 2011 for the CEO and Executive Committee members by applying the principles described previously in this Compensation Report. The specific compensation decisions made for the CEO and Executive Committee members reflect their achievements against the financial and non-financial performance objectives established for them at the beginning of the year. The achievements were assessed from both a quantitative and a qualitative perspective, with the Compensation Committee using its judgment, where appropriate, in concert with a review of metrics. In line with our compensation philosophy and performance principles, the actual payout of the variable compensation reflects the key individual achievements and the actual business performance of the organization taking into account the various following accomplishments and events, which occurred in 2011:

- Novartis management delivered against the critical goals of the organization, including financial and non-financial targets, to support the long term health of Novartis. These targets were established at the beginning of the year and were categorized under four categories: Financial targets, Innovation and Growth, Organizational Health, and Customer Satisfaction.
- The financial targets of net sales, free cash flow, and the long-term, 3-year rolling NVA were met or exceeded. However, the target of operating income was not achieved as a result of the exceptional provisions made in the fourth quarter of 2011.
- In the area of Innovation and Growth, each division was given specific targets to enhance their respective pipelines with new products. These were measured by the number of new compounds moving from research through proof of concept, submissions to regulatory agencies for marketing authorization, and approvals. These targets were met or exceeded in 2011, and included among others, the marketing authorization of *Gilenya* the first oral treatment for multiple sclerosis in the EU and *Arcapta* for chronic obstructive lung disease in the US. As expected not all trials and submissions were successful. The regulatory approvals of *Ilaris* for the treatment of gouty arthritis and SOM230 for the treatment of Cushing Syndrome were delayed while the regulatory submissions INC424, NVA237, ACZ885 for various indications occurred on time. The results of a long-term *Tekturna/Rasilez* study in hypertensive patients with concomitant renal and cardiovascular disease showed negative results, which led to the early termination of the study. Overall, the Pharmaceuticals Division gained market share.

– Importantly, the Alcon integration was planned and executed according to plan, without disruption to the business. The ambitious synergy and growth targets were exceeded. It should also be mentioned that Sandoz performed at a very high level, exceeding expectations significantly and the Vaccines and Diagnostics Division not only achieved the fastest growth among its competitors, but also gained a respectable market share with *Menveo,* a vaccine to protect against certain types of bacterial meningitis. The performance of OTC and Animal Health were on track. Finally, growth was accelerated in key emerging markets, particularly in China.
– In the area of Organizational Health, specific objectives were set in the area of productivity within manufacturing, procurement, IT and the finance function. These productivity targets were met or exceeded. Additionally, objectives to strengthen Quality Assurance were established. Capital investment and operating plans were developed and executed in key Novartis facilities to strengthen QA. However, the warning letter from the FDA covering three Sandoz facilities in the U.S. and Canada indicates that additional work will be required in this area. Additionally, compliance with quality standards has to be upgraded in the Nebraska OTC plant. In the area of associates' behavior, the Compliance group was significantly strengthened to manage adherence to the Novartis Code of Conduct, including ethical business practices. Customer satisfaction was measured by market share gains around the world. Nearly all market share targets which were established at the beginning of the year, were met or exceeded. Management also successfully implemented the Corporate Citizenship strategy and delivered among other programs over 100 million treatments of *Coartem* against malaria to developing countries. An estimated one million lives, mostly children, were saved since the launch of this product. Novartis also continued successfully its Leprosy eradication program with WHO by donating all necessary medications for free.
– The Board of Directors took note of the high retention rates of key performers, the high quality continuous education programs and the strength and good collaboration of the leadership team.
– Finally, Novartis was named the number one pharmaceutical company in *Fortune's* "Worlds most admired companies", and strong rankings in the Dow Jones Sustainability World Index reflecting the overall good reputation of the company.

COMPENSATION IN 2011

The compensation table on the following page discloses the compensation earned by the CEO and Executive Committee members for performance in 2011. The following paragraphs describe the principles underlying the data in the table.

ALIGNMENT OF REPORTING AND PERFORMANCE

The compensation table synchronizes the reporting of annual compensation with the performance in the given year, i.e., all amounts awarded for performance in 2011, including the future ESOP/LSSP match, are disclosed in full.

DISCLOSURE STRUCTURE

The compensation table shows the compensation granted to the CEO and each Executive Committee member for performance in 2011 for all compensation elements – base compensation, variable compensation and benefits – as previously described.

The column "Future ESOP/LSSP match" reflects shares to be awarded in the future if the Executive Committee member remains with Novartis for at least three or five years, respectively.

VALUATION PRINCIPLES

In order to allow a comparison with other companies, the Compensation Committee decided to disclose shares, restricted shares, RSUs and ADS at their market value on the date of grant. Market value is the current quoted share price at which a director or an associate is granted a share, a restricted share or a restricted stock unit at grant date. The market value of share options is calculated by using an option pricing valuation model as per grant date.

As shares, RSUs and share options under the variable compensation plans are generally granted with a vesting[1] period, and associates in Switzerland (including Executive Committee members) may block[2] shares received under any variable compensation plan for up to 10 years, equity based compensation is also provided at tax value in accordance with Novartis past disclosure practice. According to the Swiss Federal Tax Administration and as the Compensation Committee also firmly believes, such restrictions affect the value of shares, RSUs and share options negatively. In its "Kreisschreiben Nr. 5", the Swiss Tax Administration provides for a methodology pursuant to which unvested or blocked shares or share options shall be valued with a discount for each year they are unvested or blocked. In addition, for the valuation of share options, the Swiss Tax Authorities apply – in a standing practice for Novartis (since 1997) – an option valuation model based on Black-Scholes.

See also Note 27 to the Group's consolidated financial statements for information on executive officer and non-executive director compensation in accordance with IFRS.

[1] Vesting refers to the waiting period under a share-based incentive plan that must expire before the associate becomes irrevocably entitled to the shares, RSUs or share options involved. The associate cannot sell or exercise unvested share, RSUs or share options. If an associate leaves Novartis prior to the expiration of the vesting period for reasons other than retirement, disability or death, the associate will generally forfeit rights to such shares, RSUs or share options.

[2] Blocking refers to the ability of associates in Switzerland to opt for an extended trading restriction period of up to 10 years from the award date (including vesting). Novartis encourages associates to block their shares because doing so aligns the associates' interests with those of shareholders.

EXECUTIVE COMMITTEE MEMBER COMPENSATION FOR PERFORMANCE YEAR 2011 (MARKET VALUE)[1]

		Base compensation	Variable compensation						Benefits		Total		Total compensation
			Short-term incentive plans		Long-term incentive plans								
					Equity Plan "Select"		Long-Term Performance Plan	Special share awards	Pension benefits	Other benefits		Future ESOP/LSSP match[10]	Including future ESOP/LSSP match[11,12]
	Currency	Cash (Amount)	Cash (Amount)	Shares (Market value)[2]	Shares (Market value)[3]	Options (Market value)[4]	Shares (Market value)[5]	Shares (Market value)[6]	(Amount)[7]	(Amount)[8]	(Amount)[9]	Shares (Market value)	(Amount)
Joseph Jimenez (Chief Executive Officer)	CHF	1 916 667	704 000	1 056 033	6 160 047	0	4 550 524	0	172 193	106 889	14 666 353	1 056 033	15 722 386
Juergen Brokatzky-Geiger	CHF	696 670	0	616 037	1 232 020	0	582 379	0	150 268	26 117	3 303 491	616 037	3 919 528
Kevin Buehler (since April 8, 2011)[13]	USD	803 611	618 799	1 078 872	2 716 195	0	1 312 775	0	229 624	45 974	6 805 850	1 078 872	7 884 722
David Epstein	USD	933 333	402 630	583 475	2 794 007	0	1 293 468	0	279 409	115 086	6 401 408	583 475	6 984 883
Mark C. Fishman	USD	986 333	13 997	951 304	3 861 038	0	1 347 831	0	252 712	122 315	7 535 530	951 304	8 486 834
Jeff George	CHF	733 334	365 650	365 687	1 462 533	0	443 410	940 000	105 934	48 053	4 464 601	182 871	4 647 472
George Gunn	CHF	845 836	663 000	0	1 105 030	0	930 397	0	98 584	9 992	3 652 839	0	3 652 839
Andrin Oswald	CHF	733 334	682 500	0	1 365 027	0	443 410	940 000	118 403	57 507	4 340 181	0	4 340 181
Jonathan Symonds	CHF	890 000	0	792 025	1 980 034	0	766 171	0	196 350	0	4 624 580	792 025	5 416 605
Thomas Werlen (until September 30, 2011)[14]	CHF	560 001	0	412 516	0	0	0	0	99 836	1 598 454	2 670 807	0	2 670 807
Naomi Kelman (as from March 2, 2011)[15]	USD	497 826	262 500	0	525 028	0	81 720	4 773 120	18 466	638 443	6 797 103	0	6 797 103
Felix R. Ehrat (as from October 1, 2011)[16]	CHF	175 000	0	130 405	260 810	0	76 639	0	36 296	4 352	683 502	130 405	813 907
Total[17]	**CHF**	**9 401 376**	**3 563 757**	**5 685 668**	**22 323 260**	**0**	**11 364 429**	**6 104 000**	**1 668 316**	**2 667 132**	**62 777 939**	**5 090 336**	**67 868 275**

See note 12 to the Financial Statements of Novartis AG for 2010 data.

[1] Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not considered compensation.

[2] Participants elected to invest some or all of the value of their annual incentive in the five-year Leveraged Share Savings Plan (LSSP) or the three-year Swiss Employee Share Ownership Plan (ESOP) rather than to receive cash.

[3] Novartis shares granted under the Novartis Equity Plan "Select" have a three-year vesting period.

[4] Novartis share options granted under the Novartis Equity Plan "Select" are tradable. Share options granted outside North America will expire on January 19, 2022, have a three-year vesting period and have an exercise price of CHF 54.20 per share (the closing price of Novartis shares on the grant date of January 19, 2012). Based on the option pricing valuation model as per grant date, the value of the share options granted outside North America used in this table was CHF 4.30. Share options on ADSs granted to participants in North America will expire on January 19, 2022, have a three-year vesting period and an exercise price of USD 58.33 per ADS (the closing price of Novartis ADSs on the grant date of January 19, 2012). Based on the option pricing valuation model as per grant date, the value of the share options on ADSs granted to participants in North America used in this table was USD 4.14.

[5] Awarded based on the achievement of Novartis Economic Value Added (NVA) objectives over the performance period ended December 31, 2011.

[6] The special share awards consist of RSUs to Jeff George and to Andrin Oswald awarded on September 1, 2011, against the closing share price of that day (CHF 47.00). These RSUs have a five year vesting period. The special share awards also consist of a special award of 88 000 shares granted to Naomi Kelman to compensate her loss of equity from her former employer. This grant was awarded on April 1, 2011 at the price of USD 54.24 with staggered vesting over seven years.

[7] Service costs of pension and post-retirement healthcare benefits accumulated in 2011.

[8] Includes perquisites and other compensation paid during 2011. Does not include cost allowances and tax-equalization payments regarding the international assignment of David Epstein, Jeff George and Andrin Oswald. Does not include an annual pension in payment for Kevin Buehler as a result of a change of control clause (USD 346 362 being the time pro-rated amount for the period from April 8, 2011 to December 31, 2011).

[9] The value of all equity grants included in this table has been calculated based on market value.

[10] Reflects shares to be awarded in the future under the share saving plans, either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP). Participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period.

[11] The values of the shares, RSUs and share options reflected in this table have been calculated based on market value. The closing share price on the grant date January 19, 2012 was CHF 54.20 per Novartis share and USD 58.33 per ADS.

[12] All amounts are gross amounts (i.e., before deduction of social security and income tax due by the executives). The employer social security contribution is not included.

[13] Excludes the annual incentive and an equity grant that were awarded to K. Buehler prior to April 8, 2011 and which relate to past performance.

[14] Thomas Werlen stepped down from the Executive Committee as per September 30, 2011 and decided to leave Novartis on January 31, 2012. The base compensation and benefits information in the table reflects his pro rata compensation over the period from January 1, 2011 to September 30, 2011 (i.e. the period during which he was member of the Executive Committee). The other compensation ("Other benefits") includes the contractual salary payments from October 1, 2011 to January 31, 2012 and the pension benefits costs over this period. The other compensation ("Other benefits") does not include, however, the fair market compensation for refraining to compete with any business of Novartis over an agreed period after leaving the Company. Mr. Werlen will receive fair market compensation in return for complying with the restriction not to compete.

[15] The table reflects the compensation as Permanent Attendee to the Executive Committee from date of hiring (March 2, 2011) until December 31, 2011.

[16] The table reflects the compensation as Permanent Attendee to the Executive Committee from hire date (October 1, 2011) until December 31, 2011.

[17] Amounts in USD for Kevin Buehler, David Epstein, Mark C. Fishman and Naomi Kelman were converted at a rate of CHF 1.00 = USD 1.130, which is the same average exchange rate used in the Group's consolidated financial statements.

EXECUTIVE COMMITTEE MEMBER - EQUITY AWARDS FOR PERFORMANCE YEAR 2011 (NUMBER OF EQUITY INSTRUMENTS AND TAX VALUE)

		Variable compensation											
		Short-term incentive plans		Long-term incentive plans									
				Equity Plan "Select"				Long-Term Performance Plan		Special share awards		Future ESOP/LSSP match	
	Currency	Shares (Number)	Shares (Tax value)[2,3]	Shares (Number)	Shares (Tax value)[2,4]	Options (Number)	Options (Tax value)[2]	Shares (Number)	Shares (Tax value)[2,5]	Shares (Number)	Shares (Tax value)[2,6]	Shares (Number)	Shares (Tax value)[2,7]
Joseph Jimenez (Chief Executive Officer)	CHF	19 484	789 131	113 654	5 172 099	0	0	83 958	4 550 524	0	0	19 484	789 131
Juergen Brokatzky-Geiger	CHF	11 366	460 340	22 731	1 034 429	0	0	10 745	582 379	0	0	11 366	460 340
Kevin Buehler (since April 8, 2011)	USD	18 496	806 207	46 566	2 280 588	0	0	22 506	1 312 788	0	0	18 496	806 207
David Epstein	USD	10 003	436 008	47 900	2 345 904	0	0	22 175	1 293 468	0	0	10 003	436 008
Mark C. Fishman	USD	16 309	710 871	66 193	3 241 804	0	0	23 107	1 347 831	0	0	16 309	710 871
Jeff George	CHF	6 747	307 038	26 984	1 227 972	0	0	8 181	443 410	20 000	702 424	3 374	153 542
George Gunn	CHF	0	0	20 388	927 805	0	0	17 166	930 397	0	0	0	0
Andrin Oswald	CHF	0	0	25 185	639 979	0	0	8 181	443 410	20 000	702 424	0	0
Jonathan Symonds	CHF	14 613	591 848	36 532	1 662 477	0	0	14 136	572 529	0	0	14 613	496 924
Thomas Werlen (until September 30, 2011)	CHF	7 611	346 357	0	0	0	0	0	0	0	0	0	0
Naomi Kelman (as from March 2, 2011)[1]	USD	0	0	9 001	440 824	0	0	1 401	81 720	88 000	4 004 689	0	0
Felix R. Ehrat (as from October 1, 2011)[1]	CHF	2 406	97 447	4 812	218 982	0	0	1 414	57 269	0	0	2 406	81 818
Total[8]	**CHF**	**107 035**	**4 320 556**	**419 946**	**18 236 947**	**0**	**0**	**212 970**	**11 151 429**	**128 000**	**4 948 821**	**96 051**	**3 710 150**

[1] The table reflects the compensation as Permanent Attendee to the Executive Committee from date of hiring until December 31, 2011.

[2] Values of shares and RSUs granted are discounted by 6% per year depending on the length of the combined vesting and blocking period. For example, the value of a share award subject to a three-year vesting/blocking period calculated in accordance with the methodology described in the Kreisschreiben Nr. 5 equals 83.962% of its market value at the grant date. The value of a share award with a combined vesting/blocking period of ten years equals 55.839% of its market value at the grant date. The closing share price on the grant date (January 19, 2012) was CHF 54.20 per Novartis share and USD 58.33 per ADS. The values of share options granted are reported based on the valuation principles contained in a tax ruling from the Swiss tax authorities, reflecting the principles as disclosed in the aforementioned Kreisschreiben Nr. 5. According to this methodology, tradable share options under the Equity Plan "Select" with a vesting period of three years have a value of CHF 0.40 per option at grant.

[3] These shares have a five-year vesting period under LSSP and a three-year vesting period under ESOP.

[4] Andrin Oswald has voluntarily blocked these RSUs for ten years in addition to the three-year vesting period.

[5] Jonathan Symonds and Felix R. Ehrat have voluntarily blocked these shares for five years.

[6] The special RSU awards granted to Jeff George and Andrin Oswald have a five-year vesting period. The special share award granted to Naomi Kelman has a staggered vesting of up to seven years.

[7] Jonathan Symonds and Felix R. Ehrat have voluntarily blocked these LSSP matching share units for eight years including the five-year vesting period.

[8] Amounts in USD for Kevin Buehler, David Epstein, Mark C. Fishman and Naomi Kelman were converted at a rate of CHF 1.00 = USD 1.130, which is the same average exchange rate used in the Group's consolidated financial statements.

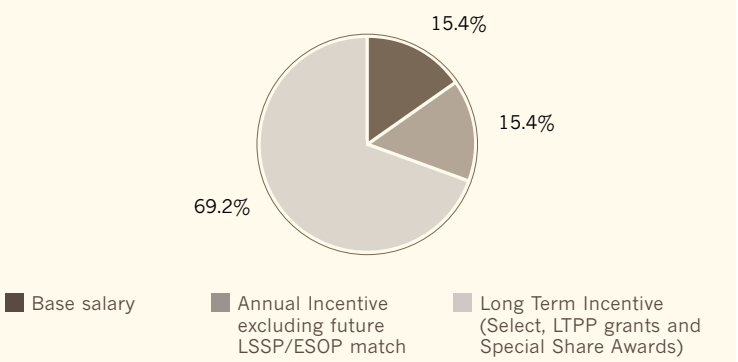
As the table below shows, most executive compensation is variable and awarded in the form of restricted equity. This ensures alignment with the interests of Novartis and its shareholders.

EXECUTIVE COMMITTEE MEMBER ACTUAL COMPENSATION MIX IN 2011 – BASE AND VARIABLE COMPENSATION[1]

		Variable	
	Base salary	Annual Incentive[2]	Long Term Incentive[3]
Joseph Jimenez	13.3%	12.2%	74.4%
Juergen Brokatzky-Geiger	22.3%	19.7%	58.0%
Kevin Buehler	12.3%	26.0%	61.7%
David Epstein	15.5%	16.4%	68.0%
Mark C. Fishman	13.8%	13.5%	72.7%
Jeff George	17.0%	17.0%	66.0%
George Gunn	23.9%	18.7%	57.4%
Andrin Oswald	17.6%	16.4%	66.0%
Jonathan Symonds	20.1%	17.9%	62.0%
Naomi Kelman (as from March 2, 2011)[4]	8.1%	4.3%	87.6%[5]
Felix R. Ehrat (as from October 1, 2011)[4]	27.2%	20.3%	52.5%
Total[6]	**15.4%**	**15.4%**	**69.2%**

[1] Excludes pension, other benefits and future ESOP/LSSP match.
[2] Excludes future ESOP/LSSP match.
[3] Long Term Incentive includes Select, LTPP grants and Special Share Awards.
[4] Permanent Attendee to the Executive Committee.
[5] Includes the special award of 88 000 shares granted to Naomi Kelman to compensate her loss of equity from her former employer.
[6] Excludes Thomas Werlen who stepped down from the Executive Committee as per September 30, 2011.

EXECUTIVE COMMITTEE ACTUAL COMPENSATION MIX IN 2011 – BASE AND VARIABLE COMPENSATION



SHARES AND SHARE OPTIONS OWNED BY MEMBERS OF THE EXECUTIVE COMMITTEE

The following tables show the total number of vested and unvested Novartis shares (including share units but excluding unvested matching share units from leveraged share savings plans and unvested target units from the Long-Term Performance Plan) and the total number of share options owned by Executive Committee members as of January 19, 2012.

As of January 19, 2012, none of the Executive Committee members together with "persons closely linked" to them (see definition under "Share Ownership – Ownership Guidelines") owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

As of December 31, 2011, all Executive Committee members who have served at least three years on the Executive Committee have met or exceeded their personal Novartis ownership requirements.

SHARES OWNED BY EXECUTIVE COMMITTEE MEMBERS

	Number of shares[1]
Joseph Jimenez	461 487
Juergen Brokatzky-Geiger	232 858
Kevin Buehler (as from April 8, 2011)	445 287[2]
David Epstein	279 395
Mark C. Fishman	435 071
Jeff George	109 525
George Gunn	251 459
Andrin Oswald	135 713
Jonathan Symonds	144 829
Naomi Kelman (as from March 2, 2011)[3]	97 906
Felix R. Ehrat (as from October 1, 2011)[3]	9 132
Total[4]	**2 602 662**

[1] Includes holdings of "persons closely linked" to members of the Executive Committee (see definition under – Share and Share Options by Members of the Board of Directors).
[2] Excludes performance share units from former Alcon equity plans to vest after January 19, 2012.
[3] Permanent attendee to the Executive Committee.
[4] Excludes Thomas Werlen who stepped down from the Executive Committee as per September 30, 2011.

SHARE OPTIONS OWNED BY EXECUTIVE COMMITTEE MEMBERS

	Number of share options[1]						
	2012	2011	2010	2009	2008	Other	Total
Joseph Jimenez				552 076	157 266		709 342
Juergen Brokatzky-Geiger				75 705	109 016	146 436	331 157
Kevin Buehler (as from April 8, 2011)						782 485[2]	782 485
David Epstein						267 777	267 777
Mark C. Fishman					184 870	587 149	772 019
Jeff George		141 396				114 979	256 375
George Gunn						94 371	94 371
Andrin Oswald						5 633	5 633
Jonathan Symonds						54 348	54 348
Naomi Kelman (as from March 2, 2011)[3]							
Felix R. Ehrat (as from October 1, 2011)[3]							
Total[4]	**–**	**141 396**	**–**	**627 781**	**451 152**	**2 053 178**	**3 273 507**

[1] Share options disclosed for a specific year were granted in that year under the Novartis Equity Plan "Select." The column "Other" refers to share options granted in 2007 or earlier, to share options granted to these executives while they were not Executive Committee members, and to share options bought on the market by the Executive Committee members or "persons closely linked" to them (see definition under – Share and Share Options Owned by Members of the Board of Directors).
[2] Consists of non tradable options and share settled appreciation rights resulting from conversion of Alcon equity into Novartis equity.
[3] Permanent Attendee to the Executive Committee.
[4] Excludes Thomas Werlen who stepped down from the Executive Committee as per September 30, 2011.

LOANS AND OTHER PAYMENTS

LOANS TO EXECUTIVE COMMITTEE MEMBERS

No loans were granted to current or former Executive Committee members during 2011. No such loans were outstanding as of December 31, 2011.

OTHER PAYMENTS TO EXECUTIVE COMMITTEE MEMBERS

During 2011, no payments (or waivers of claims) other than those set out in the Executive Committee Member Compensation table were made to current Executive Committee members or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors – Shares and Share Options Owned by Members of the Board of Directors").

PAYMENTS TO FORMER EXECUTIVE COMMITTEE MEMBERS

During 2011, no payments (or waivers of claims) were made to former Executive Committee members or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors – Shares and Share Options Owned by Members of the Board of Directors"), except for an amount of CHF 25 596, which was paid to a former member of the Executive Committee as deferred compensation.

NOTES 27 TO THE GROUP'S AUDITED CONSOLIDATED FINANCIAL STATEMENTS AND 12 TO THE AUDITED FINANCIAL STATEMENTS OF NOVARTIS AG

The compensation awarded to the members of the Board of Directors and the Executive Committee members is also presented in our Financial Report in note 27 to the Group's audited consolidated financial statements and in note 12 to the audited financial statements of Novartis AG.

A gift for living

JOE CRISMAN: "I remember it very well. It was 1976. I was teaching in a small northern Wisconsin school and had some pain in my left eye. I went on to lose the center vision in that eye, then the center vision in my right eye, which rendered me nearly blind in a matter of weeks. I had 16 miles to drive to that small school where I taught. I loved teaching. The way I would get there without center vision in both eyes was, I had good peripheral vision, so I could see the tops of the pine trees along the highway.

"I went with Karen to eye doctors who established there might be something going on with my optic nerves and prescribed steroid injections. After about 10 of them, my right eye cleared up so I could see again. But then a neurologist in a clinic in Wisconsin ran me through a ringer of tests, including spinal taps. When he came into the room he said, 'I have some bad news and I have worse news. The bad news is Elvis Presley died today.' The worse news was I had MS. MS is, neurologically speaking, a kind of a plaque over the nerves that interrupts the messages from my brain to my muscles in terms of movement of my arms and legs. And basically that plaque on those neurons interrupts the messages, so they don't get through to my muscles. The first reaction to such a diagnosis is denial. You want to believe these kinds of things aren't really happening, but in the back of your mind, you know they are. It's kind of hard to accept that you're losing the ability to do things like walking when you were once a very avid water skier.

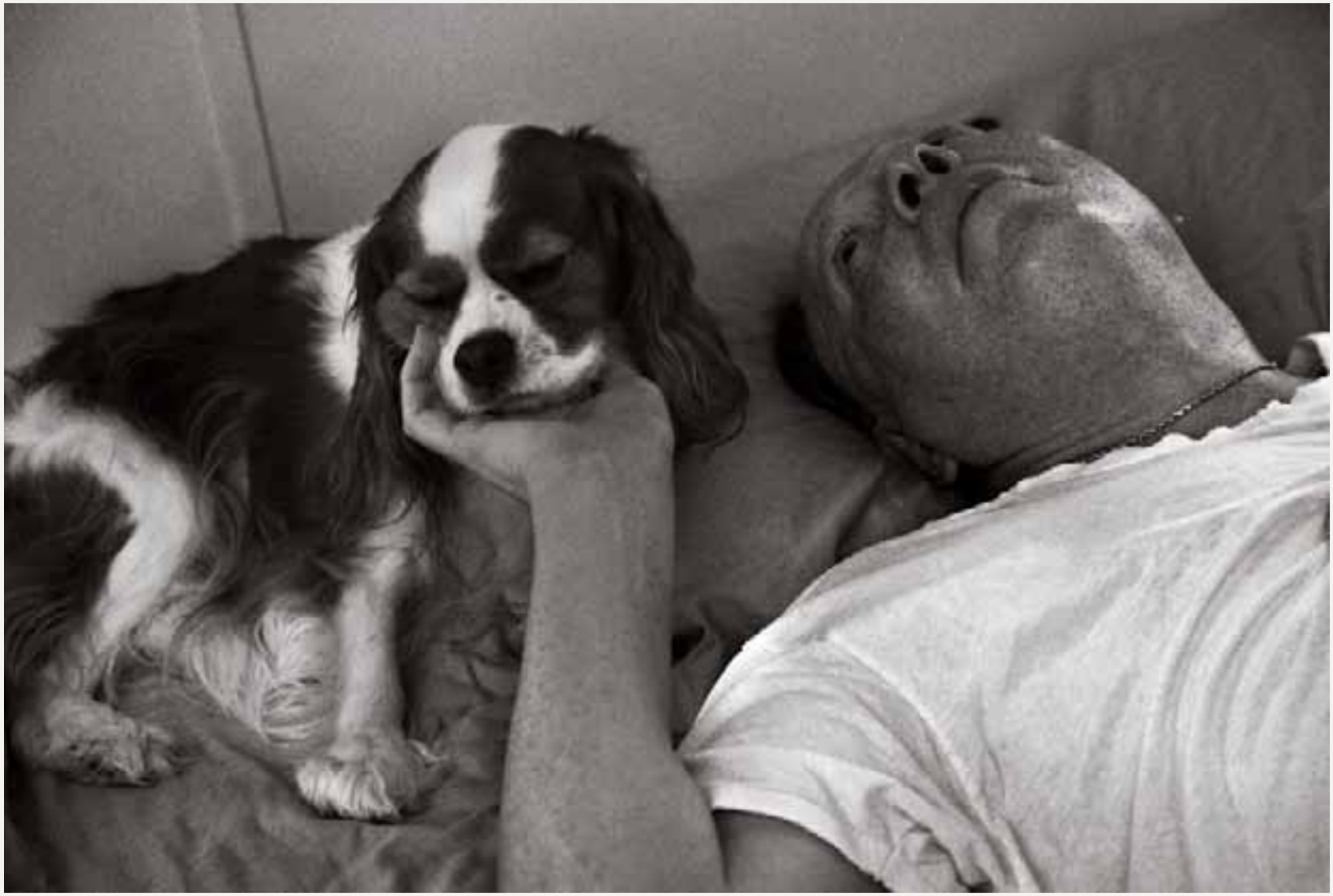
"Then from 1977 on, for 10 years, I'd been basically symptom-free when I began to feel numbness in my upper chest down to my waist. I underwent what ended up being 11 hours of what they call radical neuro-microsurgery to drain a cyst full of fluid on my spine. And for a time I had no more symptoms. Then into the 1990s I slowly degenerated in terms of walking. I went from one cane to two canes to a walker and then eventually into a motorized scooter.

"My wife Karen and I were married in 1973, on the day we were to graduate from college. She's four months older than I am, so I was sort of a child groom. Karen taught school for 30 years, was principal of her school, and I never did want to stop teaching. It was a case

of love-what-you're-doing-and-doing-what-you-love. I taught history for more than 29 years and this is no brag, just fact: I had a real gift communicating with my students, in developing a love of learning in them. But I finally had to retire. It just got increasingly difficult to keep control of the classroom. One of the big issues is fatigue. I get tired quickly and this slows down everything. I can remember falling in the teachers' lounge, the sound of my head hitting the tile. I was on the way out of the stall when I fell backwards, fracturing my skull. When I was in and out of consciousness, the priest was giving me the last rites.

"It's hard even now to talk about that time without allowing myself a 'Why me?' moment. But I don't really want to dwell on the past or even the future and what it might include; I really want to stay and live in the present. I am and Karen is…we're firm believers in trying to do everything that we would normally do if I didn't have MS, only now we have to do it a little differently.

"My job since we moved down here to Florida is to offer assistance to guests at Disney World. I am a kind of greeter or guide. I've had people come up to me and ask me what happened. Was I in the war and got injured? And I tell them I have multiple sclerosis, though a lot of them don't have a good handle on what it means. Still lots of times people will just walk past me when I greet them. They're coming into the Ticket and Transportation Center where I work, and they don't really see me. The person in the wheelchair disappears. There have been times when a tourist will ask me a question, then ask the very same question to a walking individual, who will then say the same thing I did. So yes, I get angry at what I see as a cultural bias, but try not to get antagonistic. I take some sort of solace in my belief that I can be a positive element in helping these people understand what it means to be a person in a wheelchair. People have to be aware that just because you are in a wheelchair doesn't mean you're soliciting their sympathy. What's wanted is their understanding."



FINANCIAL REPORT

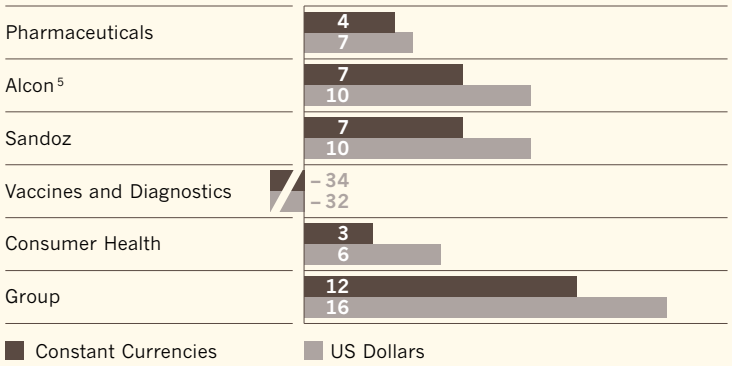
CONTENTS

FINANCIAL HIGHLIGHTS 2011

	2011 USD millions	2010 USD millions	Change %
Net sales	**58 566**	50 624	16
Operating income	**10 998**	11 526	– 5
Return on net sales (%)	**18.8**	22.8	
Net income	**9 245**	9 969	– 7
Basic earnings per share (USD)[1]	**3.83**	4.28	– 11
Core[2]			
Operating income	**15 909**	14 006	14
Core return on net sales (%)	**27.2**	27.7	
Net income	**13 490**	12 029	12
Basic earnings per share (USD)[1]	**5.57**	5.15	8
Change in net debt	**– 301**	– 18 314	
Equity at year-end	**65 940**	69 769	– 5
Dividend (CHF)[3]	**2.25**	2.20	2

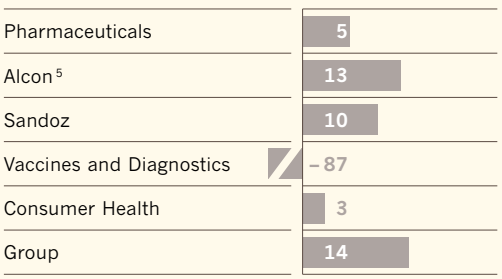
NET SALES GROWTH BY SEGMENT[4]

(in %)

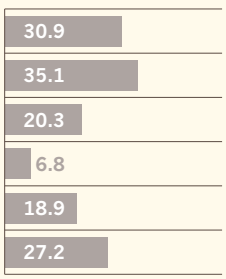


CORE OPERATING INCOME USD GROWTH

(in %)[2,4]

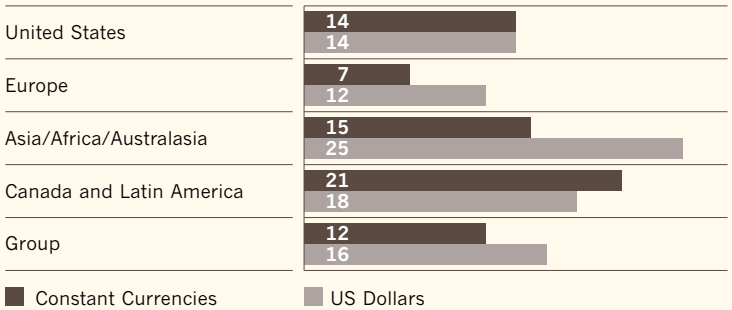


CORE OPERATING MARGIN (in %)[2]



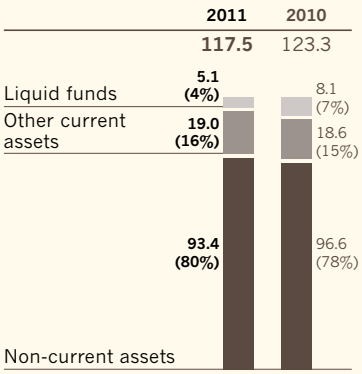
NET SALES GROWTH BY REGION

(in %)



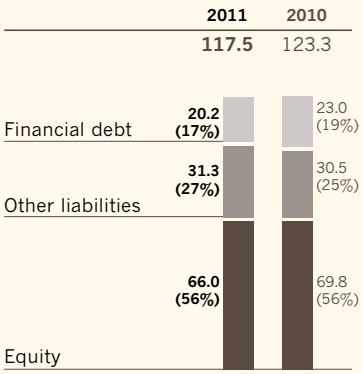
TOTAL ASSETS

(in USD billions and %)



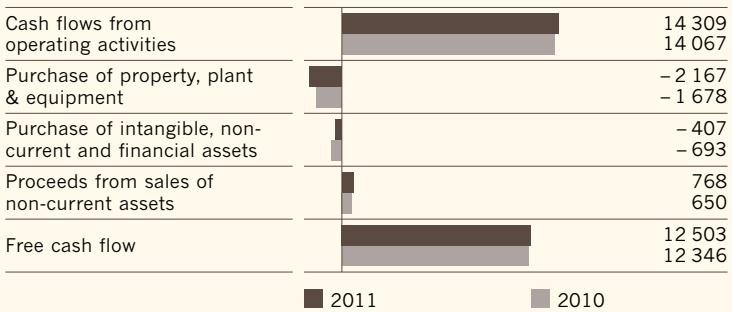
TOTAL EQUITY AND LIABILITIES

(in USD billions and %)



CASH FLOWS FROM OPERATING ACTIVITIES AND FREE CASH FLOW

(in USD millions)



[1] 2011 average number of shares outstanding: 2 382.5 million (2010: 2 285.7 million)

[2] Core results for operating income, net income and earnings per share (EPS) eliminate the impact of acquisition-related factors and other significant exceptional items. These adjustments are explained in detail starting on page 179.

[3] Dividend payment for 2011: proposal to 2012 Annual General Meeting

[4] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

[5] Basis for growth is full year 2010 on a pro forma basis as explained on page 184

KEY FINANCIAL DEVELOPMENTS IN 2011

NOVARTIS IN 2011	Innovation underpinned continued double-digit growth with a strong contribution from recently launched products.
NET SALES	Net sales rose 16% (+12% in constant currencies (cc)) to USD 58.6 billion on the underlying business expansion and from the Alcon acquisition.
PHARMACEUTICALS[1]	Net sales were up 7% (+4% cc) to USD 32.5 billion with impressive volume growth (9 percentage points) offsetting the impact of generics entries, product divestments and pricing. Products launched since 2007 comprised 28% of net sales.
ALCON[2]	Alcon net sales of USD 10.0 billion rose 10% (+7% cc) on a pro forma basis, driven by the Ophthalmic Pharmaceuticals and Surgical product categories, as well as strong growth in emerging markets.
SANDOZ[1]	Net sales advanced 10% (+7% cc) to USD 9.5 billion, driven by strong growth in the US, with enoxaparin reaching USD 1 billion in sales, as well as other key regions and differentiated products, which now account for 47% of Sandoz global sales.
VACCINES AND DIAGNOSTICS	Net sales were USD 2.0 billion, down 32% (–34% cc) from 2010. Underlying net sales (excluding A(H1N1) in 2010) achieved growth of 22% cc, driven by all franchises, with a particularly strong contribution from the meningococcal disease franchise.
CONSUMER HEALTH[1]	Net sales were up 6% (+3% cc) to USD 4.6 billion. In OTC, net sales declined at the end of 2011 due to a temporary suspension of operations and voluntary product recall at one of the US sites. Animal Health continued to grow ahead of the market in most regions.
OPERATING INCOME	Operating income was down 5% (+1% cc) to USD 11.0 billion, following net exceptional charges of USD 1.9 billion. Core operating income grew 14% (+16% cc) to USD 15.9 billion, delivering strong operating leverage. Core operating income margin was 27.2%.
NET INCOME	Net income decreased 7% (–2% in cc) to USD 9.2 billion in line with the decline in operating income. Core net income rose 12% (+15% cc) to USD 13.5 billion.
BASIC EARNINGS PER SHARE	Basic earnings per share (EPS) fell 11% (–5% cc) to USD 3.83 from USD 4.28 in 2010, while core EPS rose 8% (11% in cc) to USD 5.57.
FREE CASH FLOW	Free cash flow reached USD 12.5 billion, up 1% over 2010.
DIVIDEND	Proposed dividend of CHF 2.25 per share for 2011 represents 15th consecutive annual increase, up 2% from CHF 2.20 in 2010, a dividend yield of 4.2%.

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159
[2] Basis for growth is full year 2010 on a pro forma basis as explained in detail starting on page 184

OPERATING AND FINANCIAL REVIEW 2011

This operating and financial review should be read together with the Group's consolidated financial statements in this Annual Report, which have been prepared in accordance with International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board.

OVERVIEW

Novartis provides healthcare solutions that address the evolving needs of patients and societies worldwide. Our focused, diversified portfolio of businesses is made up of six global operating divisions and reports its results in five segments:

- Pharmaceuticals: Innovative patent-protected prescription medicines
- Alcon: Surgical, ophthalmic pharmaceutical and vision care products
- Sandoz: Generic pharmaceuticals
- Vaccines and Diagnostics: Human vaccines and blood-testing diagnostics
- Consumer Health: OTC (over-the-counter medicines) and Animal Health

The Group established its newest and second largest division, Alcon, after securing 100% ownership of Alcon, Inc., on April 8, 2011. The new division includes the CIBA Vision contact lens and lens care business and selected ophthalmic medicines from the Pharmaceuticals Division and is a world leader in eye care, offering the widest spectrum of innovative surgical, pharmaceutical and vision care products to address the world´s eye care needs.

Novartis has leadership positions in each of the five businesses, giving us the capacity to address customer and patient needs across segments of the healthcare marketplace. We believe that our ability to innovate in all these segments will allow us to tailor our portfolio in response to market opportunities and will enable Novartis to continue as an industry leader.

Headquartered in Basel, Switzerland, the Novartis Group companies employed approximately 124 000 full-time equivalent associates as of December 31, 2011, with operations in more than 140 countries around the world.

FACTORS AFFECTING RESULTS OF OPERATIONS

A number of key factors influence the Group's results of operations and the development of our businesses.

The fundamentals of the healthcare industry remain robust due to long-term demographic and socioeconomic trends worldwide, which are increasing the demand for and use of medicines and other healthcare products. Consistent investments in innovation and advancing technologies are also supporting the development of new medicines to better treat many diseases.

At the same time, other factors have created a business environment that has significant risks, such as the growing burden of healthcare costs in many countries, which has led governments and payors to focus on controlling spending ever more tightly, and more stringent regulatory demands, which have made securing approvals for new drugs increasingly costly and difficult and increased the risk of disruptions in our supply chain.

We believe that Novartis is strategically well-positioned to operate successfully in this evolving landscape. We expect that our broad, focused portfolio, our capacity to innovate resulting in a rich pipeline of potential new medicines that address unmet medical needs, and our established presence across regions should enable us to adapt to the evolving healthcare marketplace.

TRANSFORMATIONAL CHANGES FUELING DEMAND

Long-term trends in the composition and behavior of the worldwide population are fueling demand for and access to healthcare, while scientific advances continue to open new frontiers in patient treatment, creating major opportunities for improved care. These trends are expected to sustain steady growth in the healthcare market overall in the coming years and to drive accelerating growth in key segments.

AGING GLOBAL POPULATION AND SHIFTING DEMOGRAPHICS

Scientific advances in treating diseases and increased access to healthcare worldwide have enabled people across the globe to enjoy longer and healthier lives. The rise in life expectancy is coincident with a decline in birth rates, increasing the proportion of the elderly around the world. Over the next decade, there is expected to be a 75% increase in the number of people over the age of 60. In the developed world, by 2040 there are predicted to be twice as many people over the age of 60 as there will be under 15; in the United States, the number of people over the age of 60 will more than double by 2050. The proportion of the elderly is growing even faster in the developing world. For example, according to the United Nations, in China the ratio of people over 60 to the rest of the pop-

ulation is projected to rise by more than 15% annually until 2040. As the global population ages, there will continue to be an accelerating need for treatments for the diseases and conditions that disproportionately afflict the elderly.

One area where this unmet medical need is particularly evident is eye care. The aging of the world's population is linked to an increase in eye diseases, with several hundred million people living with blindness or serious vision impairment around the world. With the addition of Alcon, we have the resources and expertise to help meet these needs, with the goal of reducing preventable blindness and treating diseases and disorders of the eye.

Another major trend in worldwide health is an increase in rates of obesity. In fact, there are now more obese people in the world than there are malnourished people, and the World Health Organization (WHO) currently ranks obesity as the world's largest public health problem. Global obesity rates have doubled since 1980; one in three adults worldwide are overweight and one in nine are obese, according to a 2011 study in the British medical journal *The Lancet*. Once considered a problem only in wealthy countries, due to economic growth and shifting nutritional habits, the prevalence of people who are overweight or obese is significantly increasing in low- and middle-income countries as well, according to the WHO. The problem is only predicted to grow worse: by 2030, the majority of the world's population will be overweight or obese, according to a study conducted by Tulane University in the United States. Obesity and inactive lifestyles are important risk factors for diabetes, cardiovascular conditions and other serious diseases, including cancer. The WHO estimates that globally 44% of the diabetes burden, 23% of the incidence of ischemic heart disease and up to 41% of certain cancer burdens are attributable to obesity.

Increased rates of obesity, as well as habits such as cigarette smoking, have contributed to a worldwide rise in the prevalence of chronic diseases – including cardiovascular disease, diabetes, glaucoma and chronic respiratory diseases. Chronic diseases now account for 60% of deaths around the world. Chronic obstructive pulmonary disease (COPD) alone affects more than 200 million people worldwide, and is projected to become the world's third leading cause of death by the end of this decade. Our Pharmaceuticals and Sandoz Divisions offer several products to help address the needs of patients with COPD and other chronic diseases, and we will continue to make significant investments in new treatments to address this growing health threat.

GLOBAL RISE IN HEALTHCARE SPENDING

Across the world, healthcare spending is increasing. Factors driving this increase include aging populations, the rising incidence of chronic diseases and technological and medical advances that make it possible to treat more diseases – and patients – than ever before. Healthcare spending among members of the Organization for Economic Cooperation and Development (OECD) and emerging markets of China, Russia, Brazil and India is expected to rise from USD 5.3 trillion in 2010 to USD 7.9 trillion in 2020, an increase of approximately 50%, according to research from auditing and advisory firm PricewaterhouseCoopers (PwC). The United States remain the biggest spender by far, with expenditure on health as a percentage of gross domestic product (GDP) expected to rise to approximately 20% by 2020, up from 17.6% in 2010, according to economists in the Office of the Actuary at the Centers for Medicare and Medicaid Services. Other industrialized nations are also devoting ever greater resources to healthcare. PwC estimates that average healthcare spending as a percentage of GDP among OECD countries will increase to 14.4% by 2020 from under 10% the previous decade.

At the same time, newly industrialized markets are demanding more and better healthcare. Fueled by strong economic growth and increased commitment from governments to expand access, healthcare spending in emerging markets is set to increase substantially in the years ahead. China's plans to offer universal healthcare coverage by 2020, for instance, is expected to translate into a 20% to 25% annual increase in government healthcare spending throughout the coming decade. Other markets are also investing more resources in the health of their citizens. The Russian government recently pledged USD 3.9 billion in federal funding to modernize its medical and pharmaceutical industries, and Pharmexpert, a leading Russian market research firm, forecasts that if current trends continue, the Russian pharmaceutical market will exceed USD 60 billion by the end of the decade.

Given these trends, IMS Health, a leading provider of industry data, estimates that over the next five years emerging markets will nearly double their spending on medicines from 2010 levels to as much as USD 315 billion. China, for instance, has now become the world's third largest prescription drug market behind the United States and Japan, according to IMS.

At a time of slowing pharmaceutical sales in many industrialized countries, this expansion in many emerging markets has led to higher sales growth rates and an increasing contribution to the industry's global performance. The recent government investments in healthcare in key emerging markets can be expected to increase the healthcare industry's opportunities in such markets. As a result, we expect that in the long term, success in our industry will increasingly depend on the ability to meet not only the needs of patients in developed markets, but also those of patients in emerging markets. With our diversified portfolio spanning patented pharmaceuticals, generics and over-the-counter medicines, we are well-positioned to capture the opportunities of the expanding global healthcare market.

Reflecting the Novartis commitment to improving patient health worldwide and accelerating growth in global markets, we have made a number of strategic investments in fast-growing emerging markets. In June 2011, we began construction on a new state-of-the-art manufacturing plant for pharmaceutical and generic medicines in St. Petersburg, Russia. This investment is part of a greater commitment to local infrastructure and collaborative healthcare initiatives planned in Russia over a five-year period. In China, we will expand the number of our research and development associates nearly tenfold by 2014, bringing the total to 1200 across all divisions.

SCIENTIFIC ADVANCES OPENING NEW OPPORTUNITIES FOR TARGETED THERAPIES

Ongoing developments in technology and advances in scientific understanding, particularly around the human genome, are laying the foundation for the creation of new treatments for medical conditions for which current treatment options are inadequate or nonexistent. Further, we are gaining a greater capability to identify the specific biological factors, called "biomarkers," that indicate whether or not a given drug will be effective for a particular patient. It is estimated that up to 95% of the variability in drug response may be due to genetic differences. Effectively pairing treatments and genetic biomarkers has tremendous potential both in terms of patient health and healthcare savings.

The science of biomarkers is just one element of a new healthcare paradigm known as "personalized medicine." By delivering the right medicine to the right patient at the right time, this more targeted approach has the potential to significantly improve the response rates and outcomes of patients. Personalized medicine is expected to be a major growth driver for the industry, with the market expected to quadruple in size over the next five years, expanding to approximately USD 160 billion.

At Novartis, our research and development strategy is based on innovative science guided by patient needs. We employ state-of-the-art technology in order to achieve an understanding of the underlying mechanism of disease, and then use this understanding as the basis for the development of targeted therapies, a number of which have already been brought to market. Consistent with our science-focused strategy, Novartis has established a Molecular Diagnostics unit within our Pharmaceuticals Division to support our efforts to develop and commercialize personalized medicines. Additionally, in the Alcon Division, we are combining Novartis research operations with Alcon's expertise in development to provide a new innovation engine for the Group. Alcon scientists can now leverage the resources and capabilities of the Novartis Institutes for BioMedical Research, our global pharmaceutical research organization, to accelerate product innovation for the eye.

NEW TECHNOLOGIES CHANGING THE DELIVERY OF HEALTHCARE

New and innovative technologies have the potential to transform the delivery of healthcare and the relationships between patients, providers and payors. The spread of broadband networks coupled with the ability to embed wireless sensors in an array of devices and everyday materials is beginning to increase the use of telemedicine, or remote patient monitoring. Advances in imaging and diagnostic technologies are paving the way for new forms of preventive medicine, while the growth of electronic medical records promises to improve patient care and medical research.

Novartis is investigating new ways to use technology to improve patient outcomes beyond traditional research and development. We are actively exploring telehealth technology, which allows remote monitoring of key health indicators and patient compliance. Such technologies could both reduce healthcare costs and improve patient outcomes by allowing healthcare professionals to assess treatments and identify problems remotely and in real time.

We are also embracing new technologies and information channels to better engage with our stakeholders, from patients to physicians to payors and retailers. For example, Novartis Vaccines and Diagnostics developed VaxTrak, an iPhone application that allows families to better track and plan their children's vaccinations. The application also uses GPS technology to locate nearby retail clinics offering and administering flu vaccines.

INCREASINGLY CHALLENGING BUSINESS ENVIRONMENT

Medical and technological innovation, coupled with the increasing demand for healthcare worldwide, offers healthcare companies opportunities for growth and, more importantly, the chance to improve patient outcomes. However, the operating environment for healthcare companies has become increasingly challenging. The ongoing effects of the global financial crisis, combined with rising demands on healthcare systems, have led to a renewed focus on cost containment by governments and payors across the globe. Research and development of new products has been made more complicated and costly due to high levels of regulatory and safety scrutiny. In addition, the industry faces the continued expiration of patents and the growing market prominence of generic products, which, while offering an opportunity to our Sandoz Division, represents a significant challenge to our Pharmaceuticals and Alcon Divisions.

GREATER PRESSURE TO CONTAIN HEALTHCARE SPENDING

The ongoing financial crisis and its resultant drag on economic growth continue to impact the debt burden of many economies, most notably in Europe, where Greece is facing possible default of its sovereign debt obligations, and countries such as Spain and Italy have had their sovereign debt obligations downgraded. With budgets under pressure and a shaky global economy, stringent cost-containment measures have been implemented in countries around the world.

Given the growth of overall healthcare costs as a percentage of GDP in many countries, some governments and payors have introduced price reductions and/or rebate increases for patented and generic medicines, as well as other healthcare products and services. Other initiatives to contain healthcare costs include mandatory pricing systems, reference pricing initiatives, an increase in imports of drugs from lower-cost countries to higher-cost countries, shifting of the payment burden to patients through higher co-payments, limiting physicians' ability to choose among competing medicines, mandatory substitution of generic drugs, and growing pressure on physicians to reduce the prescribing of patented prescription medicines.

These ongoing pressures affect all of our businesses that rely on reimbursement, including Pharmaceuticals, Alcon, Sandoz, and Vaccines and Diagnostics. To mitigate these pressures, which we expect to continue in 2012, we have strengthened dialogue with

health authorities and payors to develop innovative pricing models that allow us to provide treatment options that result in better outcomes for patients. For example, in the UK, Novartis offers dose-capping arrangements for *Lucentis* for patients with wet age-related macular degeneration, whereby up to 14 injections per patient and per eye are paid by the UK National Health Service (NHS), with Novartis reimbursing NHS for the cost of additional vials the patients may need. Novartis offers similar dose-capping arrangements for *Lucentis* in many other countries.

Where we have unique, often critical medications, Novartis is committed to providing access for patients most in need through access-to-medicines programs. These programs provide assistance to those experiencing financial hardship or living in the developing world who would otherwise not be able to receive treatment.

PATENT EXPIRATIONS, GENERIC COMPETITION PRESSURE THE INDUSTRY

The pharmaceutical industry faces an unprecedented number of patent expirations in the coming years, a primary factor cited by experts as limiting industry growth. For the industry as a whole, the introduction of new products is not expected to generate the same magnitude of industry sales as the products losing market exclusivity.

The ability to successfully secure and defend intellectual property rights is particularly relevant with regard to the Pharmaceuticals and Alcon Divisions, as well as key products of our other divisions. The loss of exclusivity for one or more important products – due to patent expiration, generic challenges, competition from new patented products, or changes in regulatory status – will have a material negative impact on the Group's results of operations. Novartis takes legally permissible steps to defend its intellectual property rights, including initiating patent infringement lawsuits against generic drug manufacturers.

Some of our best-selling products have begun to face significant competition due to the end of market exclusivity resulting from the expiry of patent protection.

– The patent on valsartan, the active ingredient of *Diovan/Co-Diovan/Diovan HCT* (high blood pressure), expired in the major countries of the EU in November 2011, and generic competitors have launched there. In addition, patent protection is scheduled to expire in the US in September 2012 and in Japan in 2013. Valsartan is also used in the single-pill combination therapies *Exforge* and *Exforge HCT* (high blood pressure). While market exclusivities for *Exforge/Exforge HCT* will remain in the EU and Japan due to regulatory exclusivities, there is a risk that generic manufacturers may circumvent regulatory exclusivity and gain approval of a combination valsartan-amlodipine product in Europe. In the US, under a license agreement with a generics manufacturer, the product is expected to face generic competition in the US beginning in October 2014.
– The patent on *Femara* (cancer) expired in 2011 in the US and in major European markets, and generic competitors have launched in those markets.
– The patent on zoledronic acid, the active ingredient in *Zometa* (cancer), as well as in *Reclast/Aclasta* (osteoporosis), will expire in 2013 in the US and in 2012 and 2013 in other major markets.
– The patent on *Glivec/Gleevec* (cancer) will expire in 2015 in the US, in 2016 in the major EU countries and 2014 in Japan, in each case including extensions.

We aim to replace revenue lost from such products with revenue from our recently launched products (products launched since 2007 comprised 25% of our sales in 2011) and we believe that these products have the potential for significant additional sales. Nevertheless, the loss of sales from key products remains a major challenge to our business.

INCREASING REGULATORY, SAFETY HURDLES

Our ability to continue to grow our business and replace sales lost due to the end of market exclusivity in the mid- to long-term depends upon the success of our research and development activities in identifying and developing breakthrough products that address unmet needs, are accepted by regulators, patients and physicians, and are reimbursed by payors. Developing new pharmaceutical, biologic, medical device and vaccine products and bringing them to market, however, is a costly, lengthy and uncertain process. In an effort to ensure product safety, authorities are placing greater emphasis on the risk/benefit profile of healthcare products, with particular attention to the value-add and differentiation of products. This focus has led to requests for more clinical trial data, the inclusion of a significantly higher number of patients in clinical trials and more detailed analysis of the trials. As a result, the process of obtaining regulatory approvals for products has become even more arduous.

The post-approval regulatory burden on healthcare companies has also been growing. Increasingly, approved drugs have been subject to requirements such as Risk Evaluation and Mitigation Strategies (REMS), Risk Management Plans, comparative effectiveness studies, Health Technology Assessments and requirements to conduct post-approval Phase IV clinical trials to gather detailed safety and other data on products. These requirements make the maintenance of regulatory approvals and achievement of reimbursement for our products increasingly expensive and further heighten the risk of recalls, product withdrawals, or loss of market share. Going forward, we expect that there will be even greater regulatory attention to minimizing risk and maximizing benefit on the level of the individual patient.

While Novartis continues to be one of the industry leaders in approvals, similar to our industry peers we have been required by health authorities to conduct additional clinical trials and to submit additional analyses of our data in order to obtain product approvals. We have also had REMS and other such requirements imposed as a condition of approval of our new drugs. These factors have increased our costs and caused delays in obtaining approvals of new products, and have created a risk that safe and effective prod-

ucts will not be approved or will be removed from the market after having been approved. For example, in late December, following the seventh interim review of data from the ALTITUDE study with *Tekturna/Rasilez* (aliskiren), Novartis announced that the trial was halted on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the study. The DMC concluded that patients were unlikely to benefit from treatment on top of standard anti-hypertensive medicines, and identified higher adverse events in patients receiving *Tekturna/Rasilez* in addition to standard of care as part of the trial. Following discussions with health authorities, Novartis wrote to healthcare professionals worldwide recommending that hypertensive patients with diabetes should not be treated with *Tekturna/Rasilez*, or combination products containing aliskiren, if they are also receiving an angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB). As an additional precautionary measure, Novartis ceased promotion of *Tekturna/Rasilez*-based products for use in combination with an ACE inhibitor or ARB.

Novartis aims to counter such challenges through our focus on innovation and our emphasis on understanding disease pathways, which we believe will enable us to continue to bring differentiated new medicines to the market that effectively address patients' unmet medical needs. Alcon, for example, is the market leader in ophthalmic surgical products, and its line of *AcrySof* intraocular lenses has revolutionized cataract treatment, with over 40 million lenses implanted worldwide. Similarly, in the development of *Bexsero*, our vaccine candidate against the B serogroup of meningococcal disease (MenB, the most common cause of bacterial meningitis), Novartis Vaccines has pioneered a new approach called "reverse vaccinology." This approach involves decoding the genetic makeup of MenB and selecting those proteins that are most likely to be broadly-effective vaccine candidates. While *Bexsero* is still under regulatory review, it could potentially provide a solution to a major public health concern for which there is no effective routine vaccine.

RISK OF LIABILITY AND SUPPLY DISRUPTION FROM MANUFACTURING ISSUES

The manufacture of our products is heavily regulated by governmental health authorities around the world, and such health authorities continue to intensify their scrutiny of manufacturers' compliance. If we or our third-party suppliers fail to comply with their requirements, then we could be faced with product shortages or an inability to supply product to patients, resulting in a loss of revenue and potential third-party litigation. In addition, health authorities have begun to impose significant penalties for failures to comply with current Good Manufacturing Practices regulations (cGMP), and have the power to delay the approval of new products to be manufactured at the impacted site.

Like our competitors, we have faced, and continue to face, significant manufacturing issues. For example, in November 2011, we received a Warning Letter from the FDA with respect to three of our Sandoz facilities: Broomfield, Colorado; Wilson, North Carolina; and Boucherville, Canada. The Warning Letter raised concerns regarding compliance with FDA cGMP regulations at these facilities, and stated that until the FDA confirms that the situation has been rectified, it may recommend disapproval of any pending applications or supplements listing Novartis affiliates as a drug manufacturer. Novartis is collaborating with the FDA to promptly correct all concerns raised in the Warning Letter, and to ensure that our products are safe, effective and meet the highest quality standard for the patients who rely on them. However, if we are unable to fully resolve the issues raised in the Warning Letter, then we could be subject to legal action without further notice.

Additionally, in December 2011, Novartis Consumer Health voluntarily suspended operations at its US manufacturing facility in Lincoln, Nebraska, and subsequently recalled certain products. As of the date of this report, it is not possible to determine when the plant will resume full operations. The Lincoln facility produces a variety of products with annual sales value of less than 2% of Novartis Group sales. Should we fail to complete the planned improvements at the site in agreement with the FDA in a timely manner, then we may suffer a significant loss in sales. While this action was taken as a precautionary measure, it reinforced our commitment to a single high quality standard for the entire Novartis Group, and we are making the necessary investments to implement this standard across the network. However, ultimately, there can be no guarantee of the outcome of these matters. Nor can there be any guarantee that we will not face similar issues in the future, or that we will successfully resolve such issues when they arise.

In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply. In particular, an increasing portion of our portfolio, including products from our Pharmaceuticals, Alcon, Vaccines and Diagnostics, and Sandoz Divisions, are "biologic" products. Unlike traditional "small-molecule" drugs, biologic drugs or other biologic-based products cannot be manufactured synthetically, but typically must be produced from living plant or animal micro-organisms. As a result, the production of biologic-based products that meet all regulatory requirements is especially complex. Even slight deviations at any point in the production process may lead to batch failures or recalls. In addition, because the production process is based on living micro-organisms, the process could be affected by contaminants, which could impact those micro-organisms. As a result, the inherent fragility of certain of our raw material supplies and production processes may cause the production of one or more of our products to be disrupted, potentially for extended periods of time.

Also as part of the Group's portfolio of products, we have a number of sterile products, including oncology products, which are considered to be technically complex to manufacture and require strict environmental controls. Any change in the environment may impact production schedules and inadvertently affect supply until remediated.

POTENTIAL LIABILITY ARISING FROM LEGAL PROCEEDINGS

In recent years, there has been a trend of increasing litigation against the industries of which we are a part, especially in the United States. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time. As a result, we may become subject to substantial liabilities that may not be covered by insurance. Litigation is inherently unpredictable, and large verdicts can occur. As a consequence, we may in the future incur judgments or enter into settlements of claims that may have a material adverse effect on our results of operations or cash flows.

In recent years, governments and regulatory authorities have been stepping up their compliance and law enforcement activities in key areas, including marketing practices, antitrust, trade sanctions and corruption. Our businesses have been subject to significant civil litigation as well as governmental investigations and information requests by regulatory authorities.

For example, in 2010 our US affiliate Novartis Pharmaceuticals Corporation (NPC) settled parallel civil and criminal investigations by the US government into allegations of potential inappropriate marketing and promotion of six Novartis drugs. As part of the settlement, NPC agreed to plead guilty to one misdemeanor, and to resolve civil charges against it, agreed to pay a total of USD 422.5 million and enter into a five-year Corporate Integrity Agreement.

At the same time, our Sandoz Division may, from time to time, seek approval to market a generic version of a product before the expiration of patents claimed by the marketer of the patented product. We do this in cases where we believe that the relevant patents are invalid, unenforceable, or would not be infringed by our generic product. As a result, affiliates of our Sandoz Division frequently face patent litigation, and in certain circumstances, we may elect to market a generic product even though patent infringement actions are still pending. Should we elect to proceed in this manner and conduct a "launch at risk," we could face substantial damages if the final court decision is adverse to us.

Adverse judgments or settlements in any of these cases could have a material adverse effect on our business, financial condition and results of operations. See note 20 to our consolidated financial statements for further information on legal proceedings. At the same time, we have in place, and always seek to strengthen a significant compliance with law program. As part of our broad commitment to compliance, we are implementing a revised Code of Conduct, containing our fundamental principles and rules concerning ethical business conduct.

THE GLOBAL ECONOMIC CRISIS THREATENS OUR RESULTS

Many of the world's largest economies and financial institutions continue to be impacted by the ongoing global economic and financial crisis, with some continuing to face financial difficulty, a decline in asset prices, liquidity problems and limited availability of credit. It is uncertain how long these effects will last, or whether economic and financial trends will worsen or improve. Such uncertain economic times may have a material adverse effect on our revenues, results of operations, financial condition and ability to raise capital. For example, the ongoing debt crisis in certain countries in Europe has increased pressures on those countries, and on payors in those countries to force healthcare companies to decrease the prices at which we may sell them our products. The debt crisis has also given rise to concerns that some countries may not be able to pay us for our products at all. This situation could deteriorate as a result of potential developments in countries of key concern such as Greece, which is facing possible default of its sovereign debt obligations, as well as Spain and Italy, the sovereign debt obligations of which were recently downgraded.

Current economic conditions may adversely affect the ability of our distributors, customers, suppliers and service providers to obtain the liquidity required to pay for our products, or otherwise to buy necessary inventory or raw materials, and to perform their obligations under agreements with us, which could disrupt our operations, and negatively impact our business and cash flow. Although we attempt to monitor these third parties' financial condition and their liquidity, our ability to do so is limited, and some of them may become unable to pay their bills in a timely manner, or may even become insolvent, which could negatively impact our business and results of operations. These risks may be elevated with respect to our interactions with third parties with substantial operations in countries where current economic conditions are the most severe, particularly where such third parties are themselves exposed to sovereign risk from business interactions directly with fiscally-challenged government payers.

In addition, the varying effects of difficult economic times on the economies and currencies of different countries has impacted, and may continue to unpredictably impact, the conversion of our operating results into US dollars, our reporting currency. This is particularly so given recent financial troubles in the US and in many European economies, investor concerns about the future of the Euro, and the flight of investor capital to the perceived safety of the Swiss franc.

NOVARTIS STRATEGIES FOR SUSTAINABLE GROWTH

The cornerstone of Novartis strategy is our diversified healthcare portfolio across high-growth segments of the healthcare industry and geographies. Novartis is the only healthcare company with leading positions in pharmaceuticals, eye care, generics, vaccines and diagnostics, over-the-counter medicines and animal health.

We believe that the diversity of our business and product portfolio allows us to capture opportunities across the global healthcare market, while balancing our risk and exposure to macroeconomic effects. We expect our broad portfolio will help us maintain growth despite the loss of revenues due to patent expiration.

OUR PRIORITIES: INNOVATION, GROWTH AND PRODUCTIVITY

Novartis is committed to becoming the most successful and respected healthcare company in the world. To achieve this, we

base our operations on three strategic priorities: leading innovation through new research methods and new collaborations with industry stakeholders to better address customer and patient needs; accelerating growth by responding to key market opportunities and delivering new treatments quickly and efficiently to customers and patients; and improving productivity by streamlining our organization in order to improve profitability and free up resources for new research and development investments. We believe that by focusing on these principles we can enhance our capabilities in meeting the world's healthcare needs and continue to drive value for our shareholders.

EXTENDING OUR LEAD IN INNOVATION

Our commitment to scientific innovation underpins all our strategic principles. Sustaining innovation and R&D productivity across our businesses requires substantial investment and commitment, and we plan to continue to invest at the high end of the industry average. In 2011, we invested more than 20% of Pharmaceuticals Division sales. Our research approach, which focuses on understanding diseases and their molecular pathways, has fundamentally changed how we do business. Researching these pathways allows us to establish "proof of concept" via small clinical studies, sometimes in rare diseases, early in the research and development process. In some of those cases, regulatory approval may be achieved relatively quickly because of the urgent unmet need of patients with such rare diseases. While growth is supported by the initial launch of the given compound in the targeted population, we are sometimes also able to conduct parallel development into other potential treatment applications, which may have much larger patient populations.

For example, *Afinitor*, our kidney cancer treatment, received approval from the FDA and EMA in 2011 for the treatment of advanced pancreatic neuroendocrine tumors. The active ingredient in *Afinitor*, everolimus, was also approved as *Votubia* in the EU for the treatment of subependymal giant cell astrocytoma associated with tuberous sclerosis complex for which surgery is not a treatment option. Late-stage studies also showed that *Afinitor*, in combination with exemestane, significantly lengthens the amount of time women with advanced breast cancer live without the disease progressing.

Our track record of bringing new medicines to the market continues to be among the best in the industry. In 2011, our Pharmaceuticals Division secured approval for 15 new products and important indication extensions in the US, EU and Japan.

We believe that our focus on innovation will enable us to continue to produce breakthroughs that address unmet patient need and further grow our business.

ACCELERATING GROWTH ACROSS OUR FIVE PLATFORMS

Novartis aims to drive growth in two key ways: via the introduction of innovative new products as described above, and through expansion of our business in fast-growing emerging markets.

Innovative products from across our portfolio are making a major contribution to the Group's overall growth, with recently launched products growing 38% in 2011 versus the previous year, now representing 25% of total sales. In the Pharmaceuticals Division, recently launched products include: *Gilenya*, the first oral multiple sclerosis treatment; *Lucentis*, our treatment for wet age-related macular degeneration, which is being expanded to new indications; our kidney cancer treatment *Afinitor*, which has been granted additional indications; and *Galvus*, our oral medication for treatment of type-2 diabetes.

The addition of Alcon, our newest and second largest division, brings more new products to our portfolio, such as advanced technology intraocular lenses used in cataract surgery. In Sandoz, strong growth of biosimilars, the generic versions of biologic drugs, and generic injectables, such as the blood-thinning medication enoxaparin, are also helping to transform the growth prospects of the Group. In Vaccines and Diagnostics, our meningococcal disease franchise is also growing strongly, driven by the increase of *Menveo* market share in the United States and the growth of our meningitis C vaccine in emerging markets.

Given the current cost pressures in the market for prescription medicines, we believe there is ample scope to expand our Sandoz Division, as well as our Consumer Health businesses. We have refocused the portfolio of Consumer Health, which comprises OTC and Animal Health, on core priority brands, a strategy that has enabled Consumer Health to post 3% sales growth in constant currencies in 2011.

The prosperity of the developing world is expected to increase in the coming years, driving growth in our industry. It is estimated that by 2030 emerging markets will account for about 60% of global GDP. This economic growth is greatly expanding access to healthcare in these geographies. Consistent with our long-term growth strategy, we continue to build our presence in high-growth markets around the world, particularly in our top six emerging markets, comprising Brazil, China, India, Russia, South Korea and Turkey. Long-term investments in these areas are crucial to winning market share and being well-positioned to capture the opportunities that expected growth in these markets will offer.

Many of these emerging markets have little, if any, distinction between pharmaceutical, OTC and generic products. Given the Novartis Group's portfolio, we believe that we have an advantage in such markets, since we offer a broad spectrum of medicines to treat a range of diseases. To take full advantage of the growth opportunities in emerging markets, we have launched many market-tailored initiatives. In China, we plan to continue to expand our commercial infrastructure and capabilities, while also pursuing targeted licensing, acquisition and alliance opportunities. In Brazil, we are leveraging our broad portfolio in order to gain scale to compete with consolidating retail channels and provide key accounts with the full range of Novartis offerings. In India, we are leveraging the capabilities of Pharmaceuticals, Sandoz, and Vaccines and Diagnostics to gain critical mass, and investing in localized products and commer-

cial infrastructure. In Russia, we are building alliances with government, regions and local companies and strengthening key account management to expand our reach.

As a result of such initiatives, in 2011 Novartis generated USD 5.8 billion, or approximately 10% of net sales, from the Group's top six emerging markets. However, combined net sales in the top six emerging markets grew at the more rapid pace of 17% in constant currencies in 2011, compared to 11% constant currency growth achieved in the seven largest developed markets. Hence, emerging markets are making increasingly significant contributions to our results, a trend we expect to continue, as we plan to continue investing in these markets.

DRIVING PRODUCTIVITY

Novartis integrates efforts toward greater productivity and increased efficiency into all our operations, constantly seeking ways to simplify and streamline processes and to reduce costs to improve margins. We are committed to freeing up resources that can be devoted to customer and growth initiatives, research and development of new offerings for patients with unmet needs, and shareholder returns. There are four key areas where we target productivity improvements across our businesses: our manufacturing footprint, Procurement, General & Administration expenses and Marketing & Sales spend.

In 2010, we initiated a Group-wide program to review our manufacturing footprint, which continued to progress in 2011. The program has two aims: first, to optimize the network by creating Manufacturing Centers of Excellence to best support the global operations of the Group across divisions, and second, to optimize the cost structure across divisions and enhance utilization rates at strategic sites to 80 percent of capacity. To these ends, we announced the exit or partial exit of 14 sites since the program started in 2010, thereby reducing excess capacity and enabling the shift of strategic production to technology competence centers.

Additional efficiencies are expected through Marketing & Sales spend, as Novartis continues to reallocate resources geographically and simplify prevailing processes. As a percentage of sales, Marketing & Sales spend has decreased from 26.3% in 2010 to 25.7% in 2011, down 3.5 percentage points since 2007.

In addition, we made Procurement a major source of savings by leveraging our scale, implementing global category management and creating country Centers of Excellence in key markets, which generated annual savings in 2011 of approximately USD 1.3 billion.

Novartis also continuously looks for ways to simplify its structures, especially with regard to General & Administration expenses. The streamlining of core processes across the Group and the implementation of core service centers for functions such as Human Resources and Finance will further provide leverage and resources for reinvestment.

NOVARTIS BUSINESSES FACE OPPORTUNITIES AND CHALLENGES

Novartis believes that its portfolio of healthcare businesses gives us a strong position to meet many of the needs of customers and patients in today's healthcare marketplace, which is expected to grow 5.5% (CAGR) between 2011 and 2016. In the view of Novartis, sustained growth in the healthcare industry requires the capacity to adapt to changing and expanding markets worldwide, to collaborate with industry stakeholders, and to deliver new treatments based on new medical advancements that improve patient health. We believe that Novartis has both the scope and innovative capacity to succeed in all these areas. For example, we have a highly competitive and robust pipeline with more than 130 projects in clinical development, including 66 new molecular entities. We have also achieved a strong level of launch excellence, with recently launched products growing 38% (excluding A(H1N1)) over the previous year.

Novartis maintains a leadership position in developing and delivering prescription medicines (Pharmaceuticals, which represents 56% of net sales in 2011), innovative eye care products (Alcon, 17%), complex, differentiated generics and biosimilars (Sandoz, 16%), preventative vaccines and diagnostic tools (Vaccines and Diagnostics, 3%), and market-leading over-the-counter offerings and medicines for animals (Consumer Health, 8%). According to IMS, these sectors are expected to grow between 2% per year (Pharmaceuticals) and 8% per year (Vaccines) from 2011 to 2016. Additionally, we have positioned ourselves to capture significant marketplace opportunities across geographies, with 37% of 2011 net sales in Europe, 33% in the US, 21% in Asia, Africa and Australasia, and 9% in Canada and Latin America, helping to mitigate the impact of currency fluctuations. Consequently, Novartis is not dependent for growth on any one product, region, or market. Our growth is sustained by our strong position in diverse market segments, with a focus on the areas of greatest customer and patient need.

While Sandoz can benefit from government pressure on prices, the healthcare landscape continues to offer growth opportunities for patented pharmaceuticals as well. We believe that the Novartis portfolio will allow us to continue to grow and to improve healthcare outcomes for patients across treatment categories all over the world.

PHARMACEUTICALS: FILLING UNMET NEED THROUGH DIFFERENTIATED DRUGS

Novartis has developed innovative medicines for the treatment of cancer, cardiovascular disease, and neurological conditions, among others. Yet urgent patient needs remain, as many diseases and conditions lack effective treatments or any treatment at all. This is why we continue to focus our research on areas of high unmet medical need and where the fundamental science is well understood. Our dedicated Molecular Diagnostics unit seeks to improve the efficacy of our medicines by identifying biomarkers in patient groups that respond to the new medicines. This is intended to enable us to focus our research on smaller, narrowly defined groups of patients. Such patient segmentation is intended to assist us in accelerating the

development of therapies that have the potential to be more targeted and effective with better patient outcome and fewer side effects.

Furthering our commitment to individualized treatment, we acquired United States-based oncology laboratory Genoptix, which diagnoses bone, blood and lymph cancers and disorders for hematologists and oncologists. The acquisition enhances the Group's tools and services that aim to improve health outcomes by advancing the ability to define and monitor individualized treatment programs. The business provides a strategic fit with our current portfolio of companion diagnostic programs within the Novartis Molecular Diagnostics unit.

Underpinning our Pharmaceuticals Division's growth is our ability to rejuvenate our portfolio through innovative new products. This is expected to allow us to sustain growth even in the face of factors such as patent loss, increased generics competition and government pricing caps. Although hypertension medication *Diovan* and breast cancer treatment *Femara* lost patent protection in several core markets in 2011, losses are expected to be offset in the years ahead by sales growth from recently launched products, including *Lucentis*, *Tasigna*, *Galvus*, *Gilenya*, *Afinitor*, *Xolair* and *Onbrez Breezhaler*. In 2011, recently launched products (those launched since 2007) accounted for 28% of net sales, compared to 22% in 2010. We expect these products, as well as new products anticipated to be launched over the next five years, to generate an increasing proportion of our sales.

Our Pharmaceuticals pipeline is one of the most productive in the industry – with higher success rates at every stage of development, preclinical through registration, than our competitors – which we expect to compensate for the anticipated loss of revenues from patent expirations. For example, our investigational compound INC424 has shown significant potential in treating patients with myelofibrosis, a life-threatening blood cancer, in Phase III trials. Another Phase III study showed that 45% of children with active systemic juvenile idiopathic arthritis were able to substantially reduce their use of steroids following treatment with ACZ885, and were nearly three times less likely to suffer a new flare versus placebo. We plan to continue to invest in R&D at the high end of the industry average to sustain our industry-leading investment in R&D, which we believe will allow us to discover and develop new targeted therapies like these to better meet the needs of patients worldwide.

ALCON: THE WORLD LEADER IN EYE CARE

As the global population continues to age, healthcare demands in eye care are expected to accelerate. For example, it is estimated that by 2020, 60 million people will have open-angle glaucoma and 2.5 billion will be affected by myopia (nearsightedness) globally. As a result, eye care has been one of the fastest growing therapeutic areas in the healthcare industry.

Novartis has long held an established position in the eye care segment through CIBA Vision and our Novartis Ophthalmics portfolio. In 2011, we secured 100% ownership of Alcon, Inc., the world's largest eye care company, and merged it into Novartis. The merger with Alcon gives us an even larger footprint in the attractive, high-growth sector of eye care.

By combining our complementary businesses, Novartis and Alcon are better able to address patient need and create value for shareholders. The new Alcon Division now holds competitive positions in highly complementary product areas, spanning surgical equipment and technology, prescription medicines, contact lenses and lens care products. The world leader in ophthalmic surgery, Alcon offers advanced surgical technology such as intraocular lenses that simultaneously correct for presbyopia, which affects all cataract patients, and astigmatism, which affects about one-third of these patients.

We have also strengthened our innovation capabilities, with Alcon scientists working alongside Novartis associates at NIBR to discover expanded ophthalmic research targets and develop chemical and biologic compounds for diseases of the eye, with a particular focus on diseases such as glaucoma and macular degeneration.

We believe the integration of Alcon into the broader Group will also enable us to realize annual cost synergies of USD 350 million by 2013.

SANDOZ: CREATING AFFORDABLE, EFFECTIVE ALTERNATIVES TO COMPLEX DRUGS

By 2016, patented pharmaceuticals with global annual sales totaling around USD 200 billion are expected to lose their patent protection and face potential competition from generic alternatives, according to the research firm EvaluatePharma. In addition, governments and healthcare providers worldwide are increasingly transitioning to generic medicines as an alternative to patented prescription products in order to contain overall healthcare spending.

There is a particular demand for generic alternatives to complex patented treatments, as these treatments are often among the most costly. This demand has made the market for differentiated, "difficult-to-make" generics one of the fastest growing and most attractive segments of the generics industry. Sandoz has established itself as a leader in developing differentiated products, including inhalers, oncology injectables, patches, and biosimilars, generic versions of biologic drugs. The significant technological capabilities and expertise required make the development of such treatments difficult for most companies. However, Sandoz has been effective in leveraging the innovative and technological capabilities and commercial scope of the entire Novartis Group in order to overcome these hurdles. In 2011, Sandoz achieved blockbuster success with generic enoxaparin based on a strong first-to-market launch in 2010, underscoring our leadership in differentiated products.

Sandoz has also had success in creating highly complex biosimilars, achieving global sales of USD 261 million in 2011, an increase of 37% in constant currencies over the previous year. Sandoz is also the first and only company with more than one biosimilar on the market in Europe and achieved the first-ever biosimilar approvals in the US, Japan and Canada. With patents expected to expire over the next four years on biologics with global sales of USD 64 billion,

our leading position in biosimilars gives us an advantage within the competitive generics industry. Moreover, our strong biosimilars pipeline, with more than eight molecules in development and two projects in Phase III as of the end of 2011, gives us an opportunity to remain at the forefront of this key sector, driving continued growth and making healthcare more affordable for patients.

We also plan to continue to expand our generics success in emerging markets and accelerating growth in mature markets such as the United States. With the full integration of Alcon into the Novartis Group, the Sandoz US portfolio has been broadened with the ophthalmic and optic products of Falcon Pharmaceuticals, Ltd., Alcon's US generics business. The addition of this new portfolio has made Sandoz the largest manufacturer and marketer of generic ophthalmic and optic products in the US.

VACCINES AND DIAGNOSTICS: PREVENTING DISEASE

As global healthcare costs rise and chronic diseases become a greater burden in emerging markets, the prevention of disease has taken on new urgency. Governments and payors are increasingly recognizing the essential roles of vaccines and blood screening in prevention, and in generally maintaining worldwide health.

The vaccines market continues to expand, with expected growth of approximately 8-10% annually for the next five years. We are focused on developing safe and effective methods to better prevent various forms of the flu as well as other major causes of human illness. Novartis Vaccines research is leading advances in the way vaccines are made so that we can bring patients novel offerings to effectively prevent devastating infectious diseases. Our meningococcal disease franchise is growing strongly, driven by the increase of *Menveo* market share in the United States and the growth of our meningitis C vaccine, *Menjugate*, in emerging markets. *Menveo* sales achieved USD 142 million in 2011, and we continue to expand this franchise. In June, the FDA accepted our application to expand the *Menveo* indication to include infants and toddlers as young as two months, supported by clinical data from more than 6 000 children worldwide between the ages of 2 and 23 months. If approved, *Menveo* would be the first quadrivalent meningococcal conjugate vaccine to provide protection in the first year of life, when the majority of infections occur. Meanwhile, our vaccine candidate against the B serogroup of meningococcal disease, *Bexsero,* is nearing the completion of the regulatory review process in Europe, Canada and other regions with high disease incidence.

We have successfully incorporated cutting-edge technologies into our Vaccines and Diagnostics research practices, including the use of genomics and reverse vaccinology. These processes were essential, for instance, in the development of our response to the A(H1N1) pandemic flu in 2009, and in our development of *Bexsero*. Work is ongoing on vaccine candidates in our earlier development pipeline, including, for example, vaccines against Group B streptococcus, staph aureaus and pseudomonas aeruginosa.

In 2011 we completed our acquisition of majority control of Zhejiang Tianyuan, a Chinese vaccines manufacturer, facilitating greater access to China as part of our strategy to strengthen our presence in key emerging markets and provide vaccines for patients with critical unmet needs.

CONSUMER HEALTH: OFFERING SELF-MEDICATION OPTIONS TO PATIENTS AND VETERINARY MEDICINES FOR ANIMALS

Accelerated healthcare spending is leading governments, payors and other healthcare providers to seek ways to reduce overall healthcare costs. In many cases, over-the-counter (OTC) medicines represent a cheaper, effective alternative to prescription options. In addition, wider availability of health information via the Internet, which empowers patients to play a greater role in their own healthcare, can lead them to choose OTC offerings in treating or preventing illness. Our continued focus on priority brands within OTC delivered strong results, with several of those brands growing at a double-digit rate over the prior year, offsetting the negative impact of expired distribution contracts and divested brands. However, at the end of 2011, OTC experienced net sales decline due to a temporary suspension of operations and voluntary product recall at one of the US manufacturing sites. We are focused on driving growth by increasing the scale of business in top markets and expanding our portfolio in core disease areas, such as gastrointestinal and pain relief. OTC sales in the top six emerging markets also grew at a double-digit rate in 2011, led by Russia, Brazil and China, where the division launched *Lamisil* to compete in the growing anti-fungal market.

Another way we can maximize our return on investment in research into new medicines is by leveraging that investment by extending our work in Animal Health, potentially generating incremental sales on the dollars invested in R&D. In many cases, our Pharmaceuticals Division's medicines, in adjusted doses and dosage forms, have applications for pets and farm animals. In fact, about a third of the Animal Health R&D portfolio consists of projects from the human health pipeline. We have been able to leverage synergies across R&D and manufacturing to make Animal Health an important second stream of growth for our new and existing treatments. We continue to sustain Animal Health's leading position in specialty segments, with strong performance of the pig therapeutic *Denagard* in the United States, China and Brazil. In Europe, *Milbemax* remained the number one de-wormer for cats and dogs, with the new chewy formulation accelerating growth. Key emerging markets continue to contribute strong double-digit growth to our Animal Health business globally.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our principal accounting policies are set out in note 1 to the Group's consolidated financial statements and are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Given the uncertainties inherent in our business activities, we must make certain estimates and assumptions that require difficult, subjective and complex judgments. Because of uncertainties inherent in such judgments, actual outcomes and results may differ from our assumptions and estimates which could materially affect the Group's consolidated financial statements. Application of the following accounting policies requires certain assumptions and estimates that have the potential for the most significant impact on our consolidated financial statements.

REVENUE

We recognize product sales when there is persuasive evidence that a sales arrangement exists, title and risk and rewards for the products are transferred to the customer, the price is determinable, and collectability is reasonably assured. Where contracts contain customer acceptance provisions we recognize sales upon the satisfaction of acceptance criteria.

At the time of recognizing revenue, we also record estimates for a variety of sales deductions, including rebates, discounts, refunds, incentives and product returns. Sales deductions are reported as a reduction of revenue.

DEDUCTIONS FROM REVENUES

As is typical in the pharmaceuticals industry, our gross sales are subject to various deductions that are composed primarily of rebates and discounts to retail customers, government agencies, wholesalers, health insurance companies and managed healthcare organizations. These deductions represent estimates of the related obligations, requiring the use of judgment when estimating the effect of these sales deductions on gross sales for a reporting period. These adjustments are deducted from gross sales to arrive at net sales.

The following summarizes the nature of some of these deductions and how the deduction is estimated. After recording these, net sales represent our best estimate of the cash that we expect to ultimately collect. The US market has the most complex arrangements related to revenue deductions.

US SPECIFIC HEALTHCARE PLANS AND PROGRAM REBATES

– The US Medicaid Drug Rebate Program is administered by State governments using State and Federal funds to provide assistance to certain vulnerable and needy individuals and families. Calculating the rebates to be paid involves interpreting relevant regulations, which are subject to challenge or change in interpretative guidance by government authorities. Provisions for estimating Medicaid rebates are calculated using a combination of historical experience, product and population growth, product price increases and the mix of contracts and specific terms in the individual State agreements. These provisions are adjusted based on established processes and experiences from re-filing data with individual States.
– The US Federal Medicare program, which funds healthcare benefits to individuals age 65 or older, provides prescription drug benefits under Part D of the program. This benefit is provided through private prescription drug plans. Provisions for estimating Medicare Part D rebates are calculated based on the terms of individual plan agreements, product sales and population growth, product price increases and the mix of contracts.
– We offer rebates to key managed healthcare plans to sustain and increase market share for our products. These rebate programs provide payors a rebate after they attain certain performance parameters related to product purchases, formulary status or pre-established market share milestones relative to competitors. These rebates are estimated based on the terms of individual agreements, historical experience and projected product growth rates. We adjust provisions related to rebates periodically to reflect actual experience.
– There is often a time lag of several months between us recording the revenue deductions and our final accounting for the revenue deductions.

NON-US SPECIFIC HEALTHCARE PLANS AND PROGRAM REBATES

– In certain countries, other than the US, we provide rebates to governments and other entities. These rebates are often mandated by laws or government regulations.
– In several countries we enter into innovative pay-for-performance arrangements with certain healthcare providers, especially in the UK, Germany and Australia. Under these agreements, we may be required to make refunds to the healthcare providers or to provide additional medicines free of charge if anticipated treatment outcomes do not meet predefined targets. Potential refunds and the delivery of additional medicines at no cost are estimated and recorded as a deduction of revenue at the time the related revenues are recorded. Estimates are based on historical experience and clinical data. In cases where historical experience and clinical data are not sufficient for a reliable estimation of the outcome, revenue recognition would be deferred until such history would be available.
– There is often a time lag of several months between us recording the revenue deductions and our final accounting for the revenue deductions.

NON-HEALTHCARE PLANS AND PROGRAM REBATES, RETURNS AND OTHER DEDUCTIONS

– Charge-backs occur where our subsidiaries have arrangements with indirect customers to sell products at prices that are lower than the price charged to wholesalers. A chargeback represents the difference between the invoice price to the wholesaler and the

indirect customer's contract price. We account for vendor charge-backs by reducing revenue by an amount equal to our estimate of charge-backs attributable to a sale and they are generally settled within one to three months of incurring the liability. Provisions for estimated charge-backs are calculated using a combination of factors such as historical experience, product growth rates, payments, level of inventory in the distribution channel, the terms of individual agreements and our estimate of the claims processing time lag.

– We offer rebates to purchasing organizations and other direct and indirect customers to sustain and increase market share for our products. Since rebates are contractually agreed upon, rebates are estimated based on the terms of individual agreements, historical experience, and projected product growth rates.
– When we sell a product providing a customer the right to return a product, we record a provision for estimated sales returns based on our sales returns policy and historical rates. Other factors considered include product recalls, expected marketplace changes and the remaining shelf life of the product, and the entry of generic products. In 2011, sales returns amounted to approximately 1% of gross product sales. Especially in the Vaccines and Diagnostics Division, if there is no Novartis-specific historical return rate experience available, sales are only recorded based on evidence of product consumption or when the right of return has expired.
– We enter into distribution service agreements with major wholesalers, which provide a financial disincentive for wholesalers to purchase product quantities exceeding current customer demand. Where possible, we adjust shipping patterns for our products to maintain wholesalers' inventories level consistent with underlying patient demand;
– We offer cash discounts to customers to encourage prompt payment. Cash discounts are accrued at the time of invoicing and deducted from revenue.
– Following a decrease in the price of a product, we generally grant customers a "shelf stock adjustment" for a customer's existing inventory for the involved product. Provisions for shelf stock adjustments, which are primarily relevant within the Sandoz Division, are determined at the time of the price decline or at the point of sale if a price decline can be reasonably estimated based on inventory levels of the relevant product;
– Other sales discounts, such as consumer coupons and co-pay discount cards, are offered in some markets. These discounts are recorded at the time of sale, or when the coupon is issued and are estimated utilizing historical experience and the specific terms for each program. If a discount for a probable future transaction is offered as part of a sales transaction then an appropriate portion of revenue is deferred to cover this estimated obligation.
– We adjust provisions for revenue deductions periodically to reflect actual experience. To evaluate the adequacy of provision balances, we use internal and external estimates of the level of inventory in the distribution channel, actual claims data received and the time lag for processing rebate claims. Management also estimates the level of inventory of the relevant product held by retailers and in transit. External data sources include reports of wholesalers and third-party market data purchased by Novartis.

The following table shows the worldwide extent of our revenue deductions provisions and related payment experiences:

PROVISIONS FOR REVENUE DEDUCTIONS

				Income statement charge			
	Revenue deductions provisions at January 1 USD millions	Effect of currency translation and business combinations USD millions	Payments/ utilizations USD millions	Adjustments of prior years USD millions	Current year USD millions	Change in provisions offset against gross trade receivables	Revenue deductions provisions at December 31 USD millions
2011							
US specific healthcare plans and program rebates	1 162		– 2 860	– 19	3 157		1 440
Non-US specific healthcare plans and program rebates	575	– 24	– 1 043	– 23	1 281		766
Non-healthcare plans and program related rebates, returns and other deductions	1 360	– 68	– 6 846	– 7	7 324	– 227	1 536
Total 2011	**3 097**	**– 92**	**– 10 749**	**– 49**	**11 762**	**– 227**	**3 742**
2010							
US specific healthcare plans and program rebates	755	226	– 1 949	– 8	2 138		1 162
Non-US specific healthcare plans and program rebates	455	– 34	– 444	– 9	607		575
Non-healthcare plans and program related rebates, returns and other deductions	884	163	– 5 779	– 32	6 056	68	1 360
Total 2010	**2 094**	**355**	**– 8 172**	**– 49**	**8 801**	**68**	**3 097**

The table below shows the gross to net sales reconciliation for our Pharmaceuticals division:

GROSS TO NET SALES RECONCILIATION

	Income statement charge			
	Charged through revenue deduction provisions USD millions	Charged directly without being recorded in revenue deduction provisions USD millions	Total USD millions	In % of gross sales
2011				
Pharmaceuticals gross sales subject to deductions			**40 004**	**100.0**
US specific healthcare plans and program rebates	– 2 424		– 2 424	– 6.0
Non-US specific healthcare plans and program rebates	– 801	– 408	– 1 209	– 3.0
Non-healthcare plans and program related rebates, returns and other deductions	– 1 631	– 2 232	– 3 863	– 9.7
Total Pharmaceuticals gross to net sales adjustments	**– 4 856**	**– 2 640**	**– 7 496**	**– 18.7**
Pharmaceuticals net sales 2011			**32 508**	**81.3**
2010				
Pharmaceuticals gross sales subject to deductions			**36 400**	**100.0**
US specific healthcare plans and program rebates	– 2 029		– 2 029	– 5.6
Non-US specific healthcare plans and program rebates	– 298	– 263	– 561	– 1.5
Non-healthcare plans and program related rebates, returns and other deductions	– 1 585	– 1 919	– 3 504	– 9.6
Total Pharmaceuticals gross to net sales adjustments	**– 3 912**	**– 2 182**	**– 6 094**	**– 16.7**
Pharmaceuticals net sales 2010			**30 306**	**83.3**

ACQUISITION ACCOUNTING

The Group's consolidated financial statements reflect an acquired business from the date the acquisition has been completed. We account for acquired businesses resulting in majority ownership using the acquisition method of accounting, which requires the acquired assets and assumed liabilities to be recorded as of the acquisition date at their respective fair values. Any excess of the purchase consideration over the estimated fair values of acquired Group's share of net identified assets is recorded as goodwill in the balance sheet and denominated in the functional currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit, which is defined as the smallest group of assets that generates independent cash inflows that support the goodwill.

In-Process Research & Development (IPR&D) is valued as part of the acquisition accounting. Payments for other separately acquired assets in development, such as those related to initial and milestone payments for licensed or acquired compounds, are capitalized as IPR&D intangible assets if they are deemed to enhance our intellectual property. This occurs even if uncertainties continue to exist as to whether the R&D projects will ultimately be successful in producing a commercial product. Estimating the fair value assigned to each class of acquired assets and assumed liabilities is based on expectations and assumptions, from the perspective of a market participant, that have been deemed reasonable by management.

Contingent considerations to former owners agreed in a business combination, e.g., in the form of milestone payments upon the achievement of certain development stages or sales targets as well as royalties, are recognized as liabilities at fair value as of the acquisition date. Any subsequent changes in amounts recorded as a liability are recognized in the consolidated income statement.

IMPAIRMENT OF LONG-LIVED INTANGIBLE AND TANGIBLE ASSETS

We review long-lived intangible and tangible assets for impairment whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable.

An asset, as defined, is generally considered impaired when its carrying amount exceeds its estimated recoverable amount. The recoverable amount is measured as the higher of: a) an asset or related cash-generating unit's fair value less costs to sell and b) its value in use. Fair value reflects the Group's estimates of assumptions that market participants would use when pricing the asset. In contrast the value in use concept reflects the Group's estimates based on its expected use of the asset, including the effects of factors that may be specific to the Group and not applicable to entities in general. Value in use, and fair value, are measured principally on the basis of discounted cash flow analysis using management's best estimate of the range of economic conditions that are expected to exist over the remaining useful life of the asset. Also value in use measurements specifically exclude consideration of any estimated future net cash flows that might be expected to arise from future restructuring or from improving or enhancing the asset's performance.

The net present values involve highly sensitive estimates and assumptions including consideration of factors such as the following:

– the amount and timing of projected future cash flows;
– the selected discount and tax rate;
– the outcome of R&D activities (compound efficacy, results of clinical trials, etc.);
– the amount and timing of projected costs to develop IPR&D projects into commercially viable products;
– the probability of obtaining regulatory approval;
– long-term sales forecasts for periods of up to 25 years;
– sales erosion rates after the end of patent protection and timing of the entry of generic competition; and
– the behavior of competitors (launch of competing products, marketing initiatives, etc.).

Factors that could result in shortened useful lives or impairments include:

– entry into the market of generic or alternative products;
– lower than expected sales for acquired products or for sales associated with patents and trademarks;
– lower than anticipated future sales resulting from acquired IPR&D;
– the closing of facilities; and
– changes in the planned use of property, plant & equipment.

Goodwill and the Alcon brand name have an indefinite useful life and impairment testing is done at least annually. Any impairment charge is recorded in the consolidated income statement under "Other expense". We consider that the Alcon brand name has an indefinite life as Alcon has a history of strong revenue and cash flow performance, and we have the intent and ability to support the brand with market-place spending for the foreseeable future. IPR&D is also assessed for impairment at least on an annual basis, with any impairment charge recorded in the consolidated income statement under "Research & Development". Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the consolidated income statement under "Cost of Goods Sold", where related impairment charges, if any, are also recorded.

We have adopted a uniform method for assessing goodwill and indefinite-life intangible assets for impairment and any other intangible asset indicated as being possibly impaired. Generally, for intangible assets we use cash flow projections for the whole useful life of these assets, and for goodwill and the Alcon brand name, we utilize cash flow projections for a five-year period based on management forecasts, with a terminal value based on sales projections usually in line with or lower than inflation rates for later periods. Probability-weighted scenarios are typically used.

Discount rates used in these scenarios are based on the Group's weighted average cost of capital as an approximation of the weighted average cost of capital of a comparable market participant, which are adjusted for specific country and currency risks associated with cash flow projections.

Due to the above factors, actual cash flows and values could vary significantly from forecasted future cash flows and related values derived using discounting techniques.

The recoverable amount of a cash-generating unit and related goodwill is usually based on the higher of "fair value less costs of sale" or on the "value in use" derived from applying discounted future cash flows based on the key assumptions in the following table:

	Pharmaceuticals %	Alcon %	Sandoz %	Vaccines and Diagnostics %	Consumer Health %
Sales growth rate assumptions after forecast period	0.4	3	0 to 2	0.5	0 to 2
Discount rate (post-tax)	7	7	7	7	7

In 2011, intangible asset impairment charges of USD 627 million were recorded. USD 552 million of these arose in the Pharmaceuticals Division, principally due to the expected reduction in demand for *Tekturna/Rasilez* (aliskiren) and discontinuation of PRT128 (elinogrel), SMC021 (oral calcitonin), PTK796 and AGO178 (agomelatine) development programs. USD 75 million of impairment charges arose in all other Divisions.

In 2010, Novartis recorded impairment charges totaling approximately USD 1.0 billion. These related to impairment charges of USD 356 million for *Mycograb*, USD 250 million for PTZ601, USD 228 million for albinterferon alfa-2b and USD 120 million for ASA404 as Novartis decided to discontinue the related development projects. Additionally, USD 40 million were recorded for various other impairment charges in the Pharmaceuticals Division. Novartis also recorded various impairment charges of USD 24 million in Sandoz and Consumer Health.

Reversal of prior year impairment charges amounted to USD 8 million (2010: USD 107 million).

The amount of goodwill and other intangible assets on our consolidated balance sheet has increased significantly in recent years, primarily due to acquisitions. Although no significant additional impairments are currently anticipated, impairment testing could lead to material impairment charges in the future. For more information, see note 11 to the Group's consolidated financial statements.

Additionally, impairment charges for property, plant and equipment during 2011 amounted to USD 413 million (2010: USD 10 million) of which USD 403 million was in Pharmaceuticals primarily related to the expected reduction in demand for *Tekturna/Rasilez* and the discontinuation of the SMC021 development program.

INVESTMENTS IN ASSOCIATED COMPANIES

We use the equity method to account for investments in associated companies (generally defined as investments in companies that correspond to holdings of between 20% and 50% of a company's voting shares or over which we otherwise have significant influence).

Various estimates are used in applying the equity method, so subsequent adjustments may be required once an associated company publishes financial results or makes public other information. This applies in particular to our investment in Roche Holding AG.

We consider investments in associated companies for impairment testing whenever a company's quoted share price has fallen to a fair value below our per-share carrying value. For unquoted investments in associated companies, the latest available financial information is used to assess whether impairment testing is necessary. Where there is an indication that separately identified assets of the associated company, other than implicit goodwill, might be impaired an impairment test is performed. Any impairment charge is recorded in the consolidated income statement under "Income from associated companies".

RETIREMENT AND OTHER POST-EMPLOYMENT BENEFIT PLANS

We sponsor pension and other post-employment benefit plans in various forms that cover a significant portion of our current and former associates. For post-employment plans with defined benefit obligations, we are required to make significant assumptions and estimates about future events in calculating the expense and the present value of the liability related to these plans. These include assumptions about the discount rates we apply to estimate future liabilities, expected returns on plan assets and rates of future compensation increases. In addition, our actuarial consultants provide our management with historical statistical information such as withdrawal and mortality rates in connection with these estimates.

Assumptions and estimates used by the Group may differ materially from the actual results we experience due to changing market and economic conditions, higher or lower withdrawal rates, or longer/shorter life spans of participants among other factors. For example, a decrease in the discount rate we apply in determining the present value of the obligations of one-half of one percent would have increased our year-end defined benefit obligation by approximately USD 1.3 billion. If the 2011 discount rate had been one-half of one percentage point lower than actually assumed, interest expense would have decreased by approximately USD 60 million, and if the same decrease was also assumed for the return on assets, it would have decreased by approximately USD 100 million. We record differences between assumed and actual income and expense as "Actuarial gains/losses" in the consolidated statement of comprehensive income. These differences could have a material effect on our total equity. For more information on obligations under retirement and other post-employment benefit plans and underlying actuarial assumptions, see note 25 to the Group's consolidated financial statements.

DERIVATIVE FINANCIAL INSTRUMENTS AND RELATED CASH FLOW HEDGING

Derivative financial instruments are initially recognized in the balance sheet at fair value and subsequently re-measured to their current fair value. Any gain or loss on the hedging instrument relating to the effective portion of changes in the fair value of derivatives in cash flow hedges are recognized in the consolidated statement of comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in the consolidated income statement.

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in the consolidated statement of comprehensive income at that time is immediately recognized in the consolidated income statement. Management assesses the probability of the forecasted transaction occurring when determining whether the impact of a cash flow hedge can be deferred in the consolidated statement of comprehensive income. Amounts are only deferred when management judges the forecasted transaction to be probable.

EQUITY-BASED COMPENSATION

The fair value of Novartis shares, restricted shares, restricted share units (RSU) and American Depositary Shares (ADS) and related options granted to associates as compensation is recognized as an expense over the related vesting or service period adjusted to reflect actual and expected vesting levels. The charge for equity-based compensation is included in the personnel expenses which are allocated to functional costs and credited to consolidated equity for equity-settled amounts or to other current liabilities for cash-settled amounts. An option's fair value at grant date is calculated using the trinomial valuation method. Accurately measuring the value of share options is difficult and requires an estimate of factors used in the valuation model. These key factors involve uncertain future events, such as expected dividend yield and expected share price volatility. Expected volatilities are based on those implied from listed warrants on Novartis shares, and – to the extent that equivalent options are not available – a future extrapolation based on historical volatility. Novartis shares, restricted shares, RSUs and ADSs are valued using the market value on the grant date. For detailed information on the Group's equity-based compensation plans and underlying assumptions for valuation of share options granted in 2011, see note 26 to the Group's consolidated financial statements.

CONTINGENCIES

A number of our subsidiaries are involved in various government investigations and legal proceedings (intellectual property, product liability, commercial, employment and wrongful discharge, environmental claims, etc.) arising out of the normal conduct of their businesses. For more information, see note 20 to the Group's consolidated financial statements.

We record accruals for contingencies when it is probable that a liability has been incurred and the amount can be reliably estimated. These accruals are adjusted periodically as assessments change or additional information becomes available. For product liability claims, a significant portion of the overall accrual is actuarially determined based on factors such as past experience, amount and number of claims reported, and estimates of claims incurred but not yet reported. We provide for individually significant cases when probable and the amount can be reliably estimated. Legal defense costs are accrued when they are expected to be incurred and the amount can be reliably estimated.

In some instances, the inherent uncertainty of litigation, the resources required to defend against governmental actions, the potential impact on our reputation, and the potential for exclusion from US federal and other government reimbursement programs have contributed to decisions by companies in our industry to enter into settlement agreements with governmental authorities. These settlements have had in the past, and may continue in the future, to involve large cash payments, including potential repayment of amounts that were allegedly improperly obtained and penalties of up to treble damages. In addition, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Provisions are recorded for environmental remediation costs when expenditure on remedial work is probable and the cost can be reliably estimated. Remediation costs are provided for under "Current liabilities" and "Non-current liabilities" in the Group's consolidated balance sheet. They are estimated by calculating the present value of expected costs. Provisions relating to estimated future expenditure for liabilities do not usually reflect any insurance or other claims or recoveries, since these are only recognized when the amount is reasonably estimable and collection is virtually certain.

RESEARCH & DEVELOPMENT

Internal Research & Development (R&D) costs are fully charged to the consolidated income statement in the period in which they are incurred. We consider that regulatory and other uncertainties inherent in the development of new products preclude the capitalization of internal development expenses as an intangible asset until marketing approval from the regulatory authority is obtained in a relevant major market, such as for the US, the EU, Switzerland or Japan.

Payments made to third parties in compensation for subcontracted R&D that is deemed not to enhance our intellectual property, such as to contract research and development organizations, are expensed as internal R&D expenses in the period in which they are incurred. Such payments are only capitalized if they meet the criteria for recognition as an internally generated intangible asset, usually when marketing approval has been achieved from a regulatory authority in a major market.

Payments made to third parties in order to in-license or acquire intellectual property rights, compounds and products (In-Process Research & Development assets, "IPR&D"), including initial upfront and subsequent milestone payments, are capitalized as are payments for other assets, such as technologies to be used in R&D

activities. If additional payments are made to the originator company to continue to perform R&D activities, an evaluation is made as to the nature of the payments. Such additional payments will be expensed if such additional payments are deemed to be compensation for subcontracted R&D services not resulting in an additional transfer of intellectual property rights to Novartis. By contrast, such additional payments will be capitalized if these additional payments are deemed to be compensation for the transfer to Novartis of additional intellectual property developed at the risk of the originator company. Subsequent internal R&D costs in relation to IPR&D and other assets are expensed since the technical feasibility of the internal R&D activity can only be demonstrated by the receipt of marketing approval for a related product from a regulatory authority in a major market.

Costs for post-approval studies performed to support the continued registration of a marketed product are recognized as marketing expenses. Costs for activities that are required by regulatory authorities as a condition for obtaining marketing approval are charged as development expenses as they are incurred, in cases where it is anticipated that the related product will be sold over a longer period than the activities required to be performed to obtain the marketing approval. In the rare cases where costs related to the conditional approval need to be incurred over a period beyond that of the anticipated product sales, then the expected costs of these activities will be expensed over the shorter period of the anticipated product sales.

IPR&D assets are amortized in the consolidated income statement over their useful life once the related project has been successfully developed and regulatory approval for a product launch has been obtained. Other acquired technologies are amortized over their estimated useful lives.

TAXES

We prepare and file our tax returns based on an interpretation of tax laws and regulations and record estimates based on these judgments and interpretations. Our tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. Inherent uncertainties exist in our estimates of our tax positions. We believe that our estimated amounts for current and deferred tax assets or liabilities, including any amounts related to any uncertain tax positions, are appropriate based on currently known facts and circumstances.

NEW ACCOUNTING PRONOUNCEMENTS

Based on a Novartis analysis, the following new or amended IFRS standards will be of significance to the Group, but have not yet been adopted.

In 2009, 2010 and 2011, sections of IFRS 9 *Financial Instruments* were issued. This standard will ultimately substantially change the classification and measurement of financial instruments, hedging requirements, impairments of financial instruments and the recognition of certain fair value changes in the consolidated financial statements. Currently, only new requirements on the classification and measurement for financial assets and financial liabilities have been issued. The mandatory effective date for requirements issued as part of IFRS 9 will be on or after January 1, 2015. Early application of the requirements is permitted.

In 2011, IAS 19 revised on *Employee Benefits* was issued, for adoption by January 1, 2013. The principal impact for Novartis will be that the concepts of expected return on assets and interest expense on the defined benefit obligation as separate components of defined benefit cost will be replaced by a concept that interest will be calculated on the net of the defined benefit obligation and funded post-employment obligation assets using an interest rate reflecting market yields of high quality corporate bonds in a deep market. If this concept had been adopted by Novartis in 2011, it is estimated that operating income would have been lower by approximately USD 260 million. As required by the standard, Novartis will retrospectively adopt the standard on January 1, 2013.

Two other new standards were also issued in 2011, IFRS 10 *Consolidated Financial Statements* and IFRS 11 *Joint Arrangements* which are potentially important for Novartis. Under IFRS 10, Novartis will need to consolidate an investee based on control, i.e. when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. IFRS 11 will require that Novartis classifies joint arrangements as either joint operations, where assets, liabilities, revenues and expenses are accounted for proportionally in accordance with the agreement, or as joint ventures, which are accounted for under the equity method. These new standards become effective on January 1, 2013.

The following IFRSs and amendments are not yet effective and are not early adopted by the Group.

- IFRS 12, *Disclosures of interests in other entities*, effective for annual periods beginning on or after January 1, 2013
- IFRS 13, *Fair value measurement*, effective for annual periods beginning on or after January 1, 2013
- Amendment to IAS 1, *Presentation of items of other comprehensive income*, effective for annual periods beginning on or after July 1, 2012

Although Novartis is still completing its evaluation of these new standards, apart from where indicated, Novartis does not currently consider that the other new standards will have a significant impact on the Group's consolidated financial statements.

FACTORS AFFECTING COMPARABILITY OF YEAR-ON-YEAR RESULTS OF OPERATIONS

RECENT ACQUISITIONS AND DIVESTMENTS

The comparability of the year-on-year results of our operations for the total Group can be significantly affected by acquisitions and divestments. For more detail how these actions have affected our results, see "Significant Transactions" below.

SIGNIFICANT TRANSACTIONS

ALCON MAJORITY CONTROL IN 2010; FULL OWNERSHIP AND MERGER IN 2011

On August 25, 2010 Novartis completed the acquisition of a further 52% interest in Alcon, Inc. (Alcon) following the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately USD 28.3 billion or USD 180 per share. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for USD 10.4 billion or USD 143 per share in July 2008. The overall purchase price for the 77% interest in Alcon of USD 38.7 billion included certain adjustments for Alcon dividends and interest due.

On December 14, 2010 Novartis entered into a definitive agreement to merge Alcon into Novartis in consideration for Novartis shares and a Contingent Value Amount. The acquisition of the remaining outstanding non-controlling interests in Alcon were separate transactions following the previous acquisition of majority ownership in Alcon by Novartis on August 25, 2010. On April 8, 2011 a Novartis Extraordinary General Meeting approved the merger with Alcon, Inc. creating the Alcon Division which became the fifth reported segment in Novartis' strategically diversified healthcare portfolio. The Extraordinary General Meeting also authorized the issuance of 108 million new shares.

Alcon shareholders received 2.9228 Novartis shares (which included a dividend adjustment) and USD 8.20 in cash for each share of Alcon, resulting in a total consideration of USD 168.00 per share.

Following the change in majority control of Alcon on August 25, 2010, it was required for Novartis to reassess the fair value of the initial 25% non-controlling interest in Alcon it acquired from Nestlé in 2008. As the estimated fair value of the initial non-controlling interest exceeded the recorded book value of the initial non-controlling interest, Novartis recorded a revaluation gain. After adjusting for accumulated losses recorded in the Group's consolidated statement of comprehensive income since the initial 25% interest in Alcon was acquired in July 2008, a net amount of USD 335 million was recorded as a gain under "Income from Associated Companies".

After the acquisition of majority ownership in Alcon, Inc. on August 25, 2010, Alcon contributed net sales of USD 2.4 billion and operating income of USD 323 million to the consolidated income statement in 2010.

During 2011, prior to the merger of Alcon, Inc. into Novartis AG on April 8, 4.8% of the non-controlling interests in Alcon, Inc. were acquired for USD 2.4 billion.

Completion of the acquisition of the outstanding 18.6% interest in Alcon on April 8, 2011 and subsequent merger, resulted in the issuance of Novartis shares with a fair value of USD 9.2 billion and a contingent value payment of USD 0.5 billion.

The final purchase price allocation was completed in 2011 and resulted in a fair value of net identifiable assets of USD 27.0 billion and goodwill of USD 18.0 billion. Also, the excess of the value exchanged for these 2011 transactions over the recorded value of the non-controlling interest together with merger related transaction costs resulted in a reduction in equity of USD 5.7 billion.

The accounting for these transactions is explained in more detail in note 1, 2 and 24 to the Group's consolidated financial statements.

Pharmaceuticals – Acquisition of Genoptix, Inc.

On March 7, 2011 Novartis completed the acquisition of Genoptix, Inc., a specialized laboratory providing personalized diagnostic services to community-based hematologists and oncologists. Genoptix employed approximately 500 people and became part of the Novartis Molecular Diagnostics unit within the Pharmaceuticals Division.

The acquisition in cash of 100% of the shares of Genoptix totaled USD 458 million, excluding the USD 24 million of cash acquired. The final purchase price allocation resulted in net identified assets of USD 237 million and goodwill of USD 221 million. Results of operations since the acquisition date were not material.

Vaccines and Diagnostics – Acquisition of Zhejiang Tianyuan

On March 22, 2011 Novartis completed the acquisition in cash of an 85% stake in the Chinese vaccines company, Zhejiang Tianyuan Bio-Pharmaceutical Co. Ltd. The acquisition provides Novartis with an expanded presence in the Chinese vaccines market and is expected to facilitate the introduction of additional Novartis vaccines into China. The total amount paid for the 85% interest was USD 194 million, excluding USD 39 million of cash acquired. The final purchase price allocation resulted in net identified assets of USD 131 million and goodwill of USD 82 million. Non-controlling interests have increased by USD 19 million from this transaction. Results of operations since the acquisition date were not material.

Pharmaceuticals – Divestment of *Elidel*®

On May 11, 2011 Novartis completed the divestment of *Elidel*® Cream 1% to Meda Pharma Sarl and Novartis received an upfront payment of USD 420 million and recognized a gain of USD 324 million in "Other Income".

SEGMENT REPORTING

The businesses of Novartis are divided on a worldwide basis into five reporting segments (Pharmaceuticals, Alcon, Sandoz, Vaccines and Diagnostics and Consumer Health) and Corporate activities. Following the acquisition of all of Alcon, Inc., and merger into Novartis AG on April 8, 2011 a new segment allocation was introduced. As a result, the Alcon Division includes CIBA Vision and certain Pharmaceuticals Division ophthalmology products. Falcon, the US generics business of Alcon, Inc. was transferred to the Sandoz Division. Certain residual operational costs incurred by the now disbanded Consumer Health Divisional headquarters were transferred to Corporate and Corporate R&D was transferred to the Pharmaceuticals Division. All segment results for 2010 and 2011 are presented using this new allocation. Except for Consumer Health, these segments reflect the Group's internal management structure. These segments are managed separately because they each manufacture, distribute and sell distinct products which require differing marketing strategies. In the case of Consumer Health, the segment comprises two divisions which are also managed separately, however, neither of these two divisions is material enough to the Group to be separately disclosed as a segment.

Inter-segmental sales are made at amounts considered to approximate arm's-length transactions. Currently, we principally evaluate segment performance and allocate resources based on operating income, cash flow and cash flow return on invested capital (CFROI).

The following shows an overview of the impact of the restatement on the segmentation structure. Unless otherwise stated this has been used for all years presented in this Annual Report.

Segment	Newly included	Newly excluded
Pharmaceuticals	Corporate R&D	Certain ophthalmic products
Alcon	CIBA Vision, certain ophthalmic products	Falcon
Sandoz	Falcon	
Consumer Health		CIBA Vision; disbanded Consumer Health divisional management costs
Corporate	Disbanded Consumer Health divisional management costs	Corporate R&D

A summary of the above restatements on 2010 sales, operating income and core operating income is as follows:

Segment (USD m)	Net sales	Operating income	Core operating income
Pharmaceuticals	– 252	– 327	– 323
Alcon	2 020	473	498
Sandoz	74	49	57
Consumer Health	– 1 842	– 375	– 408
Corporate		180	176
Total	**0**	**0**	**0**

PHARMACEUTICALS

Pharmaceuticals researches, develops, manufactures, distributes, and sells patented prescription medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Integrated Hospital Care; and additional products. Pharmaceuticals is organized into global business franchises responsible for the development and marketing of various products as well as a business unit, called Novartis Oncology, responsible for the global development and marketing of oncology products. The Novartis Oncology Business Unit is not required to be disclosed separately as a segment since it shares common long-term economic perspectives, customers, research, development, production, distribution and regulatory factors with the rest of the division.

Pharmaceuticals is the largest contributor among the segments, accounting in 2011 for USD 32.5 billion, or 56%, of net sales and for USD 8.3 billion, or 71%, of operating income (excluding Corporate Income & Expense, net).

ALCON

Alcon discovers, develops, manufactures, distributes and sells eye care products. Alcon is the global leader in eye care with product offerings in Surgical, Ophthalmic Pharmaceuticals and Vision Care. In Surgical, Alcon develops, manufactures, distributes and sells ophthalmic surgical equipment, instruments, disposable products and intraocular lenses. In Ophthalmic Pharmaceuticals, Alcon discovers, develops, manufactures, distributes and sells medicines to treat chronic and acute diseases of the eye, as well as over-the-counter medicines for the eye. In Vision Care, Alcon develops, manufactures, distributes and sells contact lenses and lens care products.

In 2011, Alcon accounted for USD 10.0 billion, or 17%, of Group net sales, and for USD 1.5 billion, or 13%, of Group operating income (excluding Corporate income and expense, net).

In addition to the restated segmentation structure, the Alcon segment is also discussed on a pro forma basis. This is necessary since the restated 2010 segmentation only includes the consolidated results of Alcon, Inc. from the date of acquisition of majority control on August 25, 2010. In order to provide a meaningful description of the results of this segment in 2011 compared to

2010, the pro forma results of Alcon, Inc. from January 1, 2010 to August 25, 2010 have been included. The pro forma results of the Alcon segment therefore have been prepared assuming that the acquisition of Alcon, Inc. had occurred as of January 1, 2010 and that the purchase price allocation had been performed as of this date. As a result, the pro forma results include the full year charge for additional amortization of the acquired intangible assets and the impact of other revaluations of assets and liabilities. Exceptional items included in the results for 2010 resulting from the change of control on August 25, 2010 such as change of control and other exceptional costs as well as the impact of revaluing the inventory and charging this to the post August 25, 2010 consolidated income statement have also been excluded. Also excluded is the impact of any divestments in 2010 and 2011 required by regulators to approve the merger.

The additional impact on the 2010 and 2011 restated Alcon segment results from incorporating the pro forma adjustments can be summarized as follows:

(USD m)	Net sales	Operating income	Core operating income
2010			
Alcon restated	4 446	796	1 350
Pro forma adjustments	4 585	385	1 745
Alcon pro forma	9 031	1 181	3 095
2011			
Alcon restated	9 958	1 472	3 492
Pro forma adjustments	– 9	– 11	– 2
Alcon pro forma	9 949	1 461	3 490

SANDOZ

Sandoz is a leading global generic pharmaceuticals company that develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. Sandoz has activities in Retail Generics, Anti-Infectives, Biopharmaceuticals and Oncology Injectables. In Retail Generics, Sandoz develops, manufactures and markets active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops and manufactures active pharmaceutical ingredients and intermediates – mainly antibiotics – for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops manufactures and markets protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufactures and markets cytotoxic products for the hospital market.

In 2011, Sandoz accounted for USD 9.5 billion, or 16%, of net sales and for USD 1.4 billion, or 12% of operating income (excluding Corporate Income & Expense, net).

VACCINES AND DIAGNOSTICS

Vaccines and Diagnostics researches, develops, manufactures, distributes and sells preventive vaccines and diagnostic tools. Novartis Vaccines is a leading global developer and manufacturer of human vaccines.

Novartis Diagnostics is a blood testing and molecular diagnostics business dedicated to preventing the spread of infectious diseases through novel blood-screening tools that protect the world's blood supply.

In 2011, Vaccines and Diagnostics accounted for USD 2.0 billion, or 3%, of net sales and an operating loss of USD 249 million, or 2%, of operating income (excluding Corporate Income & Expense, net).

CONSUMER HEALTH

Consumer Health now consists of two divisions: OTC (over-the-counter medicines) and Animal Health. Each has its own research, development, manufacturing, distribution and selling capabilities. However, neither is material enough to the Group to be separately disclosed as a segment. OTC offers readily available consumer medicine and Animal Health provides veterinary products for farm and companion animals.

In 2011, Consumer Health accounted for USD 4.6 billion, or 8%, of net sales and for USD 727 million, or 6% of operating income (excluding Corporate Income & Expense, net).

CORPORATE

Income and expenses relating to Corporate include the costs of our headquarters and corporate coordination functions in major countries. In addition, Corporate includes certain items of income and expense that are not attributable to specific divisions, including global IT infrastructure remediation.

EFFECTS OF CURRENCY FLUCTUATIONS

We transact our business in many currencies other than the US dollar, our reporting currency.

The following provides an overview of net sales and expenses for 2011 and 2010 for currencies most important to the Group:

Currency		2011 %	2010 %
US dollar (USD)	Net sales	36	36
	Operating expenses	38	36
Euro (EUR)	Net sales	27	28
	Operating expenses	25	26
Swiss franc (CHF)	Net sales	2	2
	Operating expenses	14	13
Japanese yen (JPY)	Net sales	9	8
	Operating expenses	4	4
Other currencies	Net sales	26	26
	Operating expenses	19	21

We prepare our consolidated financial statements in US dollars. As a result, fluctuations in the exchange rates between the US dollar and other currencies can have a significant effect on both the Group's results of operations as well as on the reported value of our assets, liabilities, revenue and expenses as measured in US dollars. This in turn may significantly affect reported earnings (both positively and negatively) and the comparability of period-to-period results of operations.

For purposes of our consolidated balance sheets, we translate assets and liabilities denominated in other currencies into US dollars at the prevailing market exchange rates as of the relevant balance sheet date. As a result, even if the amounts or values of these items remain unchanged in the respective local currency, changes in exchange rates have an impact on the amounts or values of these items in our consolidated financial statements. For purposes of the Group's consolidated income and cash flow statements, revenue, expense and cash flow items in local currencies are translated into US dollars at average exchange rates prevailing during the relevant period.

We seek to manage currency exposure by engaging in hedging transactions where management deems appropriate. For 2011, we entered into various contracts that change in value with movements in foreign exchange rates in order to preserve the value of assets, commitments and expected transactions. We also use forward contracts and foreign currency options to hedge expected net revenues in foreign currencies. For more information on how these transactions affect our consolidated financial statements and on how foreign exchange rate exposure is managed, see notes 1, 5 and 16 to the Group's consolidated financial statements.

The average value of the US dollar in 2011 decreased against the EUR, CHF and JPY. The following table sets forth the foreign exchange rates of the US dollar against these currencies, used for foreign currency translation when preparing the Group's consolidated financial statements:

	Average for year			Year end		
USD per unit	**2011**	**2010**	**Change in %**	**2011**	**2010**	**Change in %**
EUR	1.392	1.327	5%	1.294	1.324	–2%
CHF	1.130	0.961	18%	1.064	1.063	0%
JPY (100)	1.255	1.141	10%	1.289	1.227	5%

The following table provides a summary of the currency impact on key Group figures due to their conversion into USD, the Group's reporting currency, of the financial data from entities reporting in non-US dollars. Constant currency (cc) calculations apply the exchange rates of the prior year to the current year financial data for entities reporting in non-US dollars.

CURRENCY IMPACT ON KEY FIGURES

	Change in constant currencies % 2011	**Change in USD % 2011**	**Percentage point currency impact 2011**	**Change in constant currencies % 2010**	**Change in USD % 2010**	**Percentage point currency impact 2010**
Net sales	12	16	4	14	14	–
Operating income	1	–5	–6	17	15	–2
Net income	–2	–7	–5	20	18	–2
Core operating income	16	14	–2	24	22	–2
Core net income	15	12	–3	18	17	–1

For additional information on the effects of currency fluctuations, see note 16 to the Group's consolidated financial statements.

RESULTS OF OPERATIONS

KEY FIGURES

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010 USD millions	Change in USD %	Change in constant currencies %
Net sales	**58 566**	**50 624**	**16**	**12**
Other revenues	809	937	– 14	– 15
Cost of Goods Sold	– 18 983	– 14 488	31	25
Gross profit	**40 392**	**37 073**	**9**	**7**
Marketing & Sales	– 15 079	– 13 316	13	9
Research & Development	– 9 583	– 9 070	6	– 2
General & Administration	– 2 970	– 2 481	20	12
Other income	1 354	1 234	10	– 4
Other expense	– 3 116	– 1 914	63	48
Operating income	**10 998**	**11 526**	**– 5**	**1**
Income from associated companies	528	804	– 34	– 34
Interest expense	– 751	– 692	9	5
Other financial income and expense	– 2	64	– 103	– 140
Income before taxes	**10 773**	**11 702**	**– 8**	**– 2**
Taxes	– 1 528	– 1 733	– 12	– 6
Group net income	**9 245**	**9 969**	**– 7**	**– 2**
Attributable to:				
Shareholders of Novartis AG	*9 113*	*9 794*	*– 7*	*– 1*
Non-controlling interests	*132*	*175*	*– 25*	*– 25*
Basic earnings per share	**3.83**	**4.28**	**– 11**	**– 5**

CORE KEY FIGURES

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010 USD millions	Change in USD %	Change in constant currencies %
Core gross profit	**43 839**	**38 517**	**14**	**11**
Marketing & Sales	– 15 077	– 13 315	13	9
Research & Development	– 9 239	– 8 080	14	7
General & Administration	– 2 957	– 2 477	19	11
Other income	443	485	– 9	– 43
Other expense	– 1 100	– 1 124	– 2	– 19
Core operating income	**15 909**	**14 006**	**14**	**16**
Core net income	**13 490**	**12 029**	**12**	**15**
Core basic earnings per share	**5.57**	**5.15**	**8**	**11**

The Group's core results – including core operating income, core net income and core earnings per share – exclude the amortization of intangible assets, impairment charges, expenses relating to the integration of acquisitions as well as other items that are, or are expected to accumulate within the year to be, over a USD 25 million threshold that management deems exceptional.

A detailed summary of the reconciliation of reported to core results is provided starting on page 179.

OVERVIEW – RESULTS OF OPERATIONS

Net sales rose 16% (+12% cc) to USD 58.6 billion in 2011, with a positive currency impact of 4% arising from the weakness of the US dollar against most major currencies during much of 2011. Recently launched products sales grew 38% (in USD, excluding the A(H1N1) pandemic flu vaccine) over 2010 to USD 14.4 billion. These products contributed 25% of Group net sales, up from 19% in 2010.

Operating income was down 5% (+1% cc) to USD 11.0 billion. The weakness of the US dollar, combined with the strong Swiss franc, resulted in a negative currency impact of 6 percentage points. Cost of Goods Sold rose by 31% (25% cc) to USD 19.0 billion in 2011, increasing by 3.8 percentage points to 32.4% of net sales. This led to a reduction in the gross margin by 4.2% to 69.0%. Marketing & Sales rose 13% (9% cc) to USD 15.1 billion, improving 0.6 percentage points to 25.7% of net sales, as productivity improvements and changes in the portfolio mix were partly offset by investments in new launch products. Research & Development expenses increased by 6% (–2% cc) in 2011 to USD 9.6 billion. This included USD 341 million in impairments of intangible assets. General & Administration expenses increased 20% (12% cc) to USD 3.0 billion. Other income was up 10% (–4% cc) to USD 1.4 billion and largely consists of gains from product disposals, legal settlements and certain items of net periodic pension cost. Other expense was up 63% (48% cc) to USD 3.1 billion and includes impairment of financial assets as well as property plant and equipment, litigation settlement costs, restructuring and related charges and acquisition related integration expenses.

Core operating income, which excludes exceptional items and amortization of intangible assets, was up 14% (16% cc) to USD 15.9 billion. Core operating income margin in constant currencies increased by 1.1 percentage points. However, this improvement was more than offset by a negative currency impact of 1.6 percentage points, resulting in a net decrease in core operating income margin of 0.5 percentage points to 27.2% of net sales. Total net exceptional income and expense adjusted in core results in the various line items in 2011 amounted to USD 1.9 billion expense compared to USD 1.3 billion in the prior year. It comprised charges of USD 2.9 billion (2010: USD 2.1 billion) partly offset by exceptional income of USD 1.0 billion (2010: USD 732 million). Exceptional charges included: *Tekturna/Rasilez* (USD 903 million); USD 348 million related to the discontinuation of the PRT128 (elinogrel), SMC021 (oral calcitonin), AGO178 (agomelatine), and PTK796 (omadacy-

cline) development programs; a charge of USD 115 million related to the temporary suspension of production at one of our US Consumer Health sites; other intangible asset impairment charges of USD 71 million principally relating to development projects; financial asset impairment charges of USD 192 million; integration charges of USD 250 million (mainly for Alcon); and restructuring and related costs of USD 492 million. Exceptional income includes divestment proceeds (USD 480 million) and a USD 106 million reduction of a contingent consideration obligation in Sandoz. In 2011, amortization of intangible assets amounted to USD 3.0 billion compared to USD 1.1 billion in 2010 as a result of a full year of incorporating Alcon.

Net income decreased 7% (–2% cc) to USD 9.2 billion, more than the decline in operating income as a result of lower associated company income, higher financing costs following the Alcon acquisition, partly offset by a lower tax rate (14.2% compared to 14.8%). EPS declined 11% (–5% cc), more than the decline in net income, mainly as a result of the increase in issued shares following the Alcon merger, partially offset by a lower impact from non-controlling minority interests.

Core net income grew 12% (+15% cc) to USD 13.5 billion broadly in line with core operating income. Core EPS was up by 8% (+11% cc): a lower rate than net income as a result of a higher number of outstanding shares in 2011.

The average number of shares outstanding in 2011 rose 4% to 2 382 million from 2 286 million in the year ago, while a total of 2 407 million shares were outstanding at December 31, 2011.

Free cash flow reached USD 12.5 billion (2010: USD 12.3 billion), an increase of 1% over the previous year. Free cash flow in 2010 included substantial cash flows from sales of A(H1N1) amounting to USD 1.8 billion.

NET SALES

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010[1] USD millions	Change in USD %	Change in constant currencies %
Pharmaceuticals	**32 508**	**30 306**	**7**	**4**
Alcon	**9 958**	**4 446**	**124**	**118**
Sandoz	**9 473**	**8 592**	**10**	**7**
Vaccines and Diagnostics	**1 996**	**2 918**	**– 32**	**– 34**
Consumer Health	**4 631**	**4 362**	**6**	**3**
Net sales	**58 566**	**50 624**	**16**	**12**

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

Pharmaceuticals net sales grew 7% (+4% cc) to USD 32.5 billion, and Alcon net sales of USD 10.0 billion rose 10% (+7% cc) on a pro forma basis. Sandoz net sales also grew 10% (+7% cc) to USD 9.5 billion. Vaccines and Diagnostics net sales were down 32% (–34% cc) to USD 2.0 billion, mainly due to USD 1.3 billion of A(H1N1) pandemic flu vaccine sales in 2010. Net sales of the two Consumer Health businesses together grew 6% (+3% cc) to USD 4.6 billion.

PHARMACEUTICALS

Net sales expanded 7% (+4% cc) to USD 32.5 billion in 2011 driven by 9 percentage points of increased volume, partly offset by a negative pricing impact of 1 percentage point and the combined impact of generic entries and product divestments of an additional 4 percentage points. Recently launched products contributed USD 9.2 billion of net sales, growing 35% in constant currencies over the previous year. These products now represent 28% of division sales compared to 22% in 2010.

Europe remained the largest region (USD 11.6 billion, +2% cc) for Pharmaceuticals, particularly benefiting from recently launched products, which generated 35% of net sales, more than offsetting health care cost-containment measures and generic erosion. The US (USD 10.0 billion, 0% cc) contributed 31% of net sales for the division. Japan's performance (USD 3.9 billion, +7% cc) improved versus the prior year due to new launches. Latin America and Canada (USD 3.0 billion, +10% cc) achieved strong growth rates. The top six emerging markets (USD 3.2 billion, +7% cc) were led by double-digit growth from China and India.

TOP 20 PHARMACEUTICALS DIVISION PRODUCT NET SALES – 2011

Brands		United States USD millions	% change in constant currencies	Rest of world USD millions	% change in constant currencies	Total USD millions	% change in USD	% change in constant currencies
Diovan/Co–Diovan	Hypertension	2 333	– 7	3 332	– 11	5 665	– 6	– 9
Gleevec/Glivec	Chronic myeloid leukemia	1 459	14	3 200	2	4 659	9	5
Lucentis	Age-related macular degeneration			2 050	26	2 050	34	26
Zometa	Cancer complications	642	– 11	845	0	1 487	– 2	– 5
Sandostatin	Acromegaly	574	12	869	7	1 443	12	9
Exforge	Hypertension	325	14	884	36	1 209	34	30
***Exelon/Exelon* Patch**	Alzheimer's disease	375	– 1	692	7	1 067	6	4
Femara	Breast cancer	219	– 66	692	– 11	911	– 34	– 37
Neoral/Sandimmun	Transplantation	71	– 13	832	– 1	903	4	– 2
Exjade	Iron chelator	259	– 2	591	13	850	12	8
Top ten products total		**6 257**	**– 7**	**13 987**	**3**	**20 244**	**3**	**0**
***Voltaren* (excl. OTC)**	Inflammation/pain	4	0	790	1	794	0	2
Tasigna	Chronic myeloid leukemia	255	90	461	66	716	79	74
Galvus	Diabetes			677	66	677	73	66
Comtan/Stalevo	Parkinson's disease	214	– 7	400	3	614	2	– 1
Reclast/Aclasta	Osteoporosis	386	– 2	227	18	613	6	5
Tekturna/Rasilez	Hypertension	216	4	341	41	557	27	24
Ritalin/Focalin	Attention Deficit/Hyperactive Disorder	398	17	152	14	550	19	17
Myfortic	Transplantation	200	23	318	11	518	17	15
Gilenya	Relapsing Multiple Sclerosis	383	nm	111	nm	494	nm	nm
Xolair	Asthma	15	– 38	463	35	478	30	29
Top 20 products total		**8 328**	**2**	**17 927**	**8**	**26 255**	**9**	**6**
Rest of portfolio		1 645	– 9	4 608	– 1	6 253	0	– 4
Total Division sales		**9 973**	**0**	**22 535**	**6**	**32 508**	**7**	**4**

nm - not meaningful

PHARMACEUTICALS DIVISION PRODUCT HIGHLIGHTS – SELECTED LEADING PRODUCTS

Net sales growth data below refer to 2011 worldwide performance. Growth rates are not provided for some recently launched products since they are not meaningful.

Cardiovascular and Metabolism

***Diovan* Group** (–6% to USD 5.7 billion, –9% cc) worldwide sales declined due to loss of exclusivity in the EU. *Diovan* Group remains the top-selling anti-hypertensive medication worldwide, with 13.27% of the global hypertension market.

***Exforge* Group** (+34% to USD 1.2 billion, +30% cc), showed strong worldwide growth fueled by continued prescription demand in the EU, US and other key regions, as well as ongoing *Exforge HCT* launches in Europe, Asia and Latin America. *Exforge*, a single-pill combination of *Diovan* and the calcium channel blocker amlodipine, has delivered excellent growth globally and is now available in over 80 countries. *Exforge HCT*, *Exforge* with a diuretic (hydrochlorothiazide) in a single pill, is now available for patients in over 40 countries with additional launches expected in 2012.

Tekturna/Rasilez (+27% to USD 557 million, +24% cc), the first in a class of medicines known as direct renin inhibitors to treat high blood pressure, has been growing consistently since its launch in 2007. However, in late December, following the seventh interim review of data from the ALTITUDE study with *Tekturna/Rasilez*, Novartis announced that the trial was halted on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the study. The DMC concluded that patients were unlikely to benefit from treatment on top of standard anti-hypertensive medicines, and identified higher adverse events in patients receiving Tek*turna/Rasilez* in addition to standard of care as part of the trial. Novartis has written to healthcare professionals worldwide recommending that hypertensive patients with diabetes should not be treated with *Tekturna/Rasilez*, or combination products containing aliskiren (the active ingredient in *Tekturna/Rasilez*), if they are also receiving an angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB). As an additional precautionary measure, Novartis has ceased promotion of *Tekturna/Rasilez*-based products for use in combination with an ACE inhibitor or ARB.

In 2011, single-pill combinations *Rasilamlo*, a dual combination of aliskiren and amlodipine, and *Rasitrio*, a triple combination of aliskiren, amlodipine and hydrochlorothiazide, were approved in the EU. These single-pill combinations were also launched in the US in 2011 under the brand names *Tekamlo* and *Amturnide*, respectively.

Galvus/Eucreas (+73% to USD 677 million, +66% cc), which includes oral treatments with vildagliptin for type 2 diabetes, has shown strong growth in Japan and many European, Latin American and Asian Pacific markets since launch in 2007. The single-pill combination *Eucreas/GalvusMet* (vildagliptin and metformin) accounted for the majority of sales, with the expanded use of *Galvus* in elderly patients over 75 years old in the EU also fueling growth in 2011. Additional EU approvals for use in moderate or severe renally impaired type 2 diabetes patients are expected to drive growth in 2012. Vildagliptin is now approved in more than 90 countries with an additional launch expected in China in 2012.

Oncology

Gleevec/Glivec (+9% to USD 4.7 billion, +5% cc), a targeted therapy for some forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), maintained solid growth based on its leadership position in treating these cancers. New clinical data showing significant survival benefits for adult patients with resected KIT+ GIST who received adjuvant (post-surgery) treatment with *Gleevec/Glivec* (imatinib) for three years compared to one year following surgery served as the basis for worldwide regulatory filings to update the label. *Gleevec/Glivec* was approved in 2008 for use in certain adjuvant (post-surgery) KIT+ GIST patients and is now approved in more than 60 countries for this indication.

Tasigna (+79% to USD 716 million, +74% cc), has shown rapid growth as a next-generation targeted therapy for newly diagnosed Ph+ CML patients following approvals in more than 50 markets globally including the US, EU, Japan and Switzerland, with additional submissions pending worldwide. *Tasigna* market share continues to rise in Ph+ CML in the second-line indication with approvals in over 95 countries.

Zometa (–2% to USD 1.5 billion, –5% cc) is an intravenous bisphosphonate therapy for patients with certain types of cancer that has spread to the bones. Zoledronic acid, the active ingredient in *Zometa* (4 mg), is also available under the trade names *Reclast/Aclasta* (5 mg) for use in non-oncology indications with different dosing. *Zometa* is facing new competition from denosumab, a product of Amgen.

Femara (–34% to USD 911 million, –37% cc), a treatment for early stage and advanced breast cancer in postmenopausal women, experienced a decline in sales due to multiple generic entries in the US, Europe and other key markets.

Sandostatin (+12% to USD 1.4 billion, +9% cc) benefited from the increasing use of *Sandostatin LAR* in treating symptoms of patients with neuroendocrine tumors as well as approvals in 25 countries for the delay of tumor progression in patients with midgut carcinoid tumors. It is currently under review in more than 20 additional countries for this indication.

Exjade (+12% to USD 850 million, +8% cc) continued to expand with strong growth based on new patients and expanded access led by Asia and Europe. *Exjade* is currently approved in more than 100 countries as the only once-daily oral therapy for transfusional iron overload. Filings for a potential new indication in the treatment of non-transfusion-dependent thalassemia were submitted in the US and EU.

Afinitor/Votubia (+82% to USD 443 million, +77% cc) is an oral inhibitor of the mTOR pathway used across multiple diseases. Afin*itor* continues to achieve strong growth in key markets as the only approved treatment for patients with advanced renal cell carcinoma following VEGF-targeted therapy. *Afinitor* expanded its indications with approvals in the US, EU and Japan for the treatment of advanced pancreatic neuroendocrine tumors. Everolimus, the active ingredient in *Afinitor*, is also approved in the US as *Afinitor* and in the EU as *Votubia* for the treatment of subependymal giant cell astryocytomas associated with tuberous sclerosis complex (TSC). A Phase III study of everolimus in patients with non-cancerous kidney tumors, or angiomyolipomas, associated with TSC formed the basis of regulatory filings currently underway for this potential indication. In addition, results of another Phase III study, which showed *Afinitor* plus exemestane met the primary endpoint of progression-free survival versus exemestane alone in postmenopausal women with ER+HER2- advanced breast cancer, are supporting worldwide regulatory filings for this potential indication. Everolimus is also available under the trade names *Zortress/Certican* for use in other non-oncology indications and is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Neuroscience and Ophthalmics

Lucentis (+34% to USD 2.0 billion, +26% cc) is a biotechnology eye therapy now approved in more than 100 countries for the treatment of wet age-related macular degeneration, and in more than 50 countries for the treatment of visual impairment due to diabetic macular edema. *Lucentis* was approved in June 2011 in Europe for visual impairment due to macular edema secondary to branch- and central-retinal vein occlusion, and is now approved for this indication in more than 50 countries, including China. Genentech/Roche holds the US rights to this medicine.

***Exelon/Exelon* Patch** (+6% to USD 1.1 billion, +4% cc) is a therapy for mild to moderate forms of Alzheimer's disease dementia as well as dementia linked with Parkinson's disease. The majority of sales are for *Exelon* Patch, the novel skin patch launched in 2007 which is now available in more than 80 countries worldwide for Alzheimer's disease dementia, including more than 20 countries where it is also approved for dementia associated with Parkinson's disease.

Extavia (+24% to USD 154 million, +19% cc), available in the US and more than 35 other countries for relapsing forms of multiple sclerosis (MS), marked the entry of Novartis into the field of MS. *Extavia* is the Novartis-patented version of Betaferon®/Betaseron®.

Gilenya (USD 494 million) is approved in more than 55 countries and showed continued rapid growth as a once-daily, oral disease-modifying treatment for relapsing remitting and/or relapsing forms of MS in adult patients. *Gilenya* was approved in the EU in March 2011 as a disease modifying therapy in patients with highly active relapsing-remitting multiple sclerosis (RRMS) despite treatment with beta interferon, or in patients with rapidly evolving severe RRMS. Novartis also received approval for *Gilenya* in September 2011 in Japan for the prevention of relapse and delay of progression of physical disability in adults with MS. It is licensed from Mitsubishi Tanabe Pharma Corporation.

Respiratory

Xolair (+30% to USD 478 million, +29% cc, ex-US), a biotechnology drug approved for severe persistent allergic asthma in Europe and moderate to severe persistent allergic asthma in the US, gained blockbuster status when annual global sales (including US sales recorded by Genentech/Roche) reached USD 1 billion in November 2011. *Xolair* is now approved in 90 countries and has shown strong growth during 2011 in Europe, major Latin American markets and Japan. A Phase III trial is progressing to support registration in China. Launches are continuing across Europe for *Xolair* Liquid, a new formulation in pre-filled syringes that enables easier administration than the original lyophilized formulation. Phase III studies are also being conducted in an additional potential indication, chronic idiopathic urticaria. Novartis co-promotes *Xolair* with Genentech/Roche in the US and shares a portion of operating income, but does not record any US sales. Novartis has the sole rights to market *Xolair* outside the US.

Onbrez Breezhaler/Arcapta Neohaler (USD 103 million) has shown strong sales growth since its approval in the EU in November 2009 as a once-daily long-acting beta$_2$-agonist (LABA) for the maintenance bronchodilator treatment of airflow obstruction in adult patients with chronic obstructive pulmonary disease (COPD). *Onbrez Breezhaler* (indacaterol, formerly QAB149) is now approved in more than 80 countries, including the US (under the trade name *Arcapta Neohaler*) as of July 2011 and Japan (under the trade name *Onbrez* Inhalation Capsules), where it has been co-promoted with Eisai Co. Ltd. since December 2011. Results of two Phase III studies announced in February 2011 showed that patients treated with once-daily *Onbrez Breezhaler* in conjunction with once-daily tiotropium 18 mcg experienced a significantly greater improvement in lung function than those treated with tiotropium alone, adding to the growing body of evidence supporting the use of *Onbrez Breezhaler* as an effective treatment for COPD. Sales in Germany were negatively impacted in the fourth quarter of 2011 following a reference pricing review in which the reimbursed price of *Onbrez Breezhaler* was reduced below that of generic LABAs. Novartis has maintained prices for *Onbrez Breezhaler* in Germany, since it offers additional benefits over existing LABAs as described in the EU-approved label. An additional co-payment for *Onbrez Breezhaler* is now required for many patients in Germany.

TOBI Podhaler (USD 296 million, including *TOBI* nebulizer solution) was approved in the EU in July 2011 as a suppressive therapy for chronic Pseudomonas aeruginosa lung infections in patients with cystic fibrosis (CF) aged six years and older. *TOBI Podhaler* (tobramycin inhalation powder) is a dry powder formulation of the antibiotic tobramycin, developed using novel *PulmoSphere* technology. This means that instead of using a nebulizer, treatment can be delivered using a more convenient, patient-friendly device that reduces administration time by 72% relative to *TOBI* (nebulizer solution), with comparable efficacy. *TOBI Podhaler* is designed to help CF patients, who are often young, to comply with treatment and lead more independent lives.

Integrated Hospital Care

Zortress/Certican (+30% to USD 187 million, +25% cc) is a transplantation medicine indicated to prevent organ rejection in adult kidney and heart transplant patients. It generated solid growth based on its availability in more than 85 countries, including the US, where it was launched in April 2010 for adult kidney transplantation under the brand name *Zortress*. This medicine, which has the same active ingredient as *Afinitor* (everolimus), has demonstrated immunosuppressive efficacy and a well characterized side-effect profile.

Ilaris (+85% to USD 48 million, +82% cc) is a fully human monoclonal antibody that selectively binds and neutralizes interleukin-1ß (IL-1ß), a proinflammatory cytokine. Since 2009, *Ilaris* has been approved in over 50 countries for the treatment of children and adults suffering from cryopyrin-associated periodic syndrome (CAPS), a group of rare auto-inflammatory disorders characterized by chronic recurrent fever, urticaria, occasional arthritis, deafness and potentially life threatening amyloidosis. Novartis has filed for regulatory approval of *Ilaris* in the EU and the US for the treatment of acute attacks in gouty arthritis based on data from two Phase III registration studies that met their primary endpoints. In August 2011, Novartis received a Complete Response letter from the FDA requesting additional information, including clinical data to evalu-

ate the benefit risk profile in refractory gouty arthritis patients. Novartis is currently working with the FDA to determine next steps for ACZ885 in gouty arthritis. Novartis is also pursuing other diseases in which IL-1ß may play a prominent role, such as systemic juvenile idiopathic arthritis, secondary prevention of cardiovascular events and diabetes. Select subsets of patients with these diseases would be eligible for treatment with *Ilaris*, if approved.

Neoral/Sandimmun (+4% to USD 903 million, –2% cc), for organ transplantation and autoimmune diseases, has experienced only modestly declining sales despite ongoing generic competition in recent years due to its pharmacokinetic profile, reliability and use in treating a life-threatening condition.

Myfortic (+17% to USD 518 million, +15% cc), a transplantation medicine, is approved in more than 90 countries for the prevention of acute rejection of kidney allografts and is indicated in combination with cyclosporine and corticosteroids. *Myfortic* was first approved in the US in 2004 and in the EU in 2003.

Other

Reclast/Aclasta (+6% to USD 613 million, +5% cc), a once-yearly infusion therapy for osteoporosis, continues to expand on increasing patient access to infusion centers and a broad range of use in patients with various types of this debilitating bone disease. Approvals have been received in over 100 countries for up to six indications, including the treatment of osteoporosis in men and postmenopausal women. Six year data from a pivotal fracture trial reinforced the long-term efficacy and safety profile of *Reclast/Aclasta*. Zoledronic acid, the active ingredient in *Reclast/Aclasta*, is also available in a number of countries in a different dosage for use in oncology indications under the trade name *Zometa*.

Voltaren (0% at USD 794 million, +2% cc, excluding OTC sales), a treatment for various inflammation and pain conditions, no longer has patent protection in key markets around the world, but has continued to generate growth in regions such as Latin America, the Middle East, Africa and Asia based on long-term trust in the brand.

Ritalin/Focalin (+19% to USD 550 million, +17% cc), for treatment of Attention Deficit/Hyperactivity Disorder (ADHD), has benefited from the use of long-acting *Ritalin LA* and *Focalin XR* patent-protected formulations that involve methylphenidate, the active ingredient in *Ritalin* faces generic competition in many countries.

ALCON

Net sales in 2011 of Alcon increased by 124% to USD 10.0 billion on a restated basis. Since however the 2010 base only includes the net sales of Alcon, Inc. from August 25, 2010, as indicated above, a comparison on a 2010 pro forma basis is more meaningful.

Net sales of USD 10.0 billion rose 10% (+7% cc) on a pro forma basis, driven by strong global Ophthalmic Pharmaceuticals product growth of 12% (+10% cc), Surgical products growth of 11% (+8% cc), and by the top six emerging markets, which grew 26% (+22% cc) over 2010.

Alcon division pro forma net sales by product category:

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010 USD millions	Change in USD %	Constant currencies change %
Surgical				
Cataract products	2 858	2 668	7	4
of which Cataract IOLs	*1 276*	*1 207*	*6*	*3*
Vitreoretinal products	529	424	25	21
Refractive/Other	200	129	55	51
Total	**3 587**	**3 221**	**11**	**8**
Ophthalmic Pharmaceuticals				
Glaucoma	1 287	1 136	13	10
Allergy/Otic/Nasal	884	813	9	7
Infection/inflammation	967	839	15	14
Dry Eye/Other	810	727	11	10
Total	**3 948**	**3 515**	**12**	**10**
Vision Care				
Contact lenses	1 701	1 579	8	3
Solutions/Other	713	716		–4
Total	**2 414**	**2 295**	**5**	**1**
Total net sales	**9 949**	**9 031**	**10**	**7**

ALCON DIVISION FRANCHISE HIGHLIGHTS

Net sales growth data below refer to 2011 worldwide performance on a pro forma basis.

SURGICAL

In 2011, global Surgical net sales were USD 3.6 billion, an increase of 11% (+8% cc) over the previous year. Emerging markets grew strongly, while intraocular lens unit sales (IOL) in the US showed slower growth versus 2010. Global sales of advanced technology intraocular lenses rose 16% (+15% cc), mostly due to strong sales of the *AcrySof IQ Toric* and *AcrySof IQ ReSTOR+3.0* intraocular lenses. The successful launch of the *LenSx* femtosecond refractive cataract laser, with over 500 surgeons now trained to use this cutting-edge technology, expands the cataract surgical market opportunities for Alcon. The *Constellation* vitreoretinal surgical system contributed to robust sales growth within the vitreoretinal category. Strong growth in the refractive segment was driven both by sales of equipment and increased market share in the US.

OPHTHALMIC PHARMACEUTICALS

Global net sales of Ophthalmic Pharmaceuticals products increased 12% (+10% cc) to USD 3.9 billion in 2011. Glaucoma product sales rose 13% (+10% cc), with growth driven by non-US combination products *DuoTrav* and *Azarga*, with a combined growth of 41% (+34% cc). Infection/inflammation product sales advanced 15% (+14% cc) led by strong growth of *Nevanac* ophthalmic suspension, as well as solid performance of *Durezol* ophthalmic suspension. Allergy, otic, and nasal products showed solid growth, led by the *Patanol/Pataday* franchise. Dry eye products *Systane* and *Systane* Balance were the key contributors to growth in that product segment.

VISION CARE

Global net sales of Vision Care products rose 5% (+1% cc) in 2011 to USD 2.4 billion. Contact lens growth was driven by the continued strong performance of *Air Optix*, which leads the marketplace in the multifocal segment and achieved 18% (cc) growth over the previous year, and by strong *Dailies* growth in the US. Sales of contact lenses were impacted by the discontinuation of the Specialty contact lens business as well as slower market growth in European countries. Contact lens solutions sales were led by strong growth of the *Clear Care* hydrogen peroxide solution, offset by weakness in the category for multi-purpose product sales.

SANDOZ

Sandoz achieved strong sales growth in 2011 (+10% to USD 9.5 billion, +7% cc) versus prior year driven by significant growth in US retail generics and biosimilars (+22% cc), with sales of over USD 1 billion for enoxaparin. Strong performances in Canada (+13% cc), Western Europe (+13% cc), Latin America (+12% cc), Asia (+12% cc) and Central and Eastern Europe (+6% cc) also contributed to growth in 2011. Germany retail generics and biosimilars declined (–13% cc) in a market that is estimated to have contracted 17% in net terms due to the impact of statutory health insurance tenders and new lower reference prices. Biosimilars grew 37% in constant currencies to USD 261 million globally. Sales volume expanded 14 percentage points due to new product launches, and Falcon (transferred from Alcon) contributed 2 additional percentage points of growth, more than compensating price erosion of 9 percentage points.

VACCINES AND DIAGNOSTICS

Net sales declined 32% to USD 2.0 billion in 2011 (–34% cc) compared to USD 2.9 billion in 2010. The primary driver of the net sales variance against the prior year was USD 1.3 billion of A(H1N1) pandemic flu vaccine sales in 2010 not repeated in 2011.

Excluding the impact of A(H1N1) pandemic flu vaccines sales in 2010, net sales growth was 22% in constant currencies, driven by growth across all strategic franchises, with a particularly strong contribution from our meningococcal disease franchise.

The growth of our meningococcal disease franchise was underpinned by *Menveo*, which continues to gain market share both in the US and worldwide, with net sales of USD 142 million in 2011.

CONSUMER HEALTH

Consumer Health (comprising OTC and Animal Health) delivered combined 2011 net sales of USD 4.6 billion producing growth of 6% (+3% cc).

OTC delivered low-single-digit growth driven by emerging markets and priority brands. In nine out of the top ten countries for OTC, volume growth outpaced the market. Cough and cold brands, including *Theraflu*, grew strongly behind sustained investment and a stronger season in several markets compared to 2010. *Voltaren* continued to grow through the use of innovative commercial models and a focus on marketing fundamentals, while *Prevacid24HR* benefitted from normalized stock movements compared to 2010. In the US, *Excedrin* sales declined in the fourth quarter due to the temporary suspension of operations and voluntary product recall at OTC's Lincoln, Nebraska, USA site. Expired distribution contracts and divested brands also negatively impacted net sales growth versus the prior year.

Animal Health contributed mid-single-digit net sales growth over the previous year, driven by Germany, Japan, Australia and emerging markets. *CliK* and *Vetrazin* retained their leadership positions in the sheep market in Australia and the UK. *Milbemax* delivered double-digit growth as the number one cat and dog dewormer in Europe, while *Onsior* gained market share across key European markets and Japan. In the swine business, *Denagard* continued to drive strong double-digit growth led by the US. Total US sales were flat despite the negative impact of a competitor entry in the heartworm and flea categories.

OPERATING INCOME BY SEGMENTS

	Year ended Dec 31, 2011 USD millions	% of net sales	Year ended Dec 31, 2010[1] USD millions	% of net sales	Change in USD %	Change in constant currencies %
Pharmaceuticals	**8 296**	**25.5**	**8 471**	**28.0**	**–2**	**4**
Alcon	**1 472**	**14.8**	**796**	**17.9**	**85**	**67**
Sandoz	**1 422**	**15.0**	**1 321**	**15.4**	**8**	**10**
Vaccines and Diagnostics	**–249**	**–12.5**	**612**	**21.0**	**–141**	**–131**
Consumer Health	**727**	**15.7**	**778**	**17.8**	**–7**	**4**
Corporate income & expenses, net	–670		–452			
Operating income	**10 998**	**18.8**	**11 526**	**22.8**	**–5**	**1**

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

CORE OPERATING INCOME BY SEGMENTS

	Year ended Dec 31, 2011 USD millions	% of net sales	Year ended Dec 31, 2010[1] USD millions	% of net sales	Change in USD %	Change in constant currencies %
Pharmaceuticals	**10 040**	**30.9**	**9 586**	**31.6**	**5**	**8**
Alcon	**3 492**	**35.1**	**1 350**	**30.4**	**159**	**146**
Sandoz	**1 921**	**20.3**	**1 742**	**20.3**	**10**	**11**
Vaccines and Diagnostics	**135**	**6.8**	**1 066**	**36.5**	**–87**	**–85**
Consumer Health	**873**	**18.9**	**845**	**19.4**	**3**	**12**
Corporate income & expenses, net	– 552		– 583			
Core operating income	**15 909**	**27.2**	**14 006**	**27.7**	**14**	**16**

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

PHARMACEUTICALS

Operating income decreased 2% (+4% cc) in 2011 to USD 8.3 billion. Exceptional items including amortization amounted to a net USD 1.7 billion expense compared to USD 1.1 billion expense in 2010. Exceptional items include *Tekturna/Rasilez* charges of USD 903 million, restructuring charges of USD 420 million and other intangible asset impairments of USD 302 million (mainly AGO178, PTK796, PRT128 and SMC021). These were partly offset by higher prior-year impairment charges, and divestment income from *Elidel®* (USD 324 million) and from ophthalmic pharmaceutical products related to the Alcon acquisition (USD 81 million).

Core operating income in 2011 grew 5% (+8% cc) to USD 10.0 billion. In constant currencies, core operating income margin increased by 1.4 percentage points due to continuing productivity efforts. However, this improvement was more than offset by a negative currency impact of 2.1 percentage points, resulting in a net decrease in core operating income margin of 0.7 percentage points to 30.9% of net sales. The underlying gross margin decreased by 0.6 percentage points (cc) mainly driven by increased royalties. Functional costs – which include General & Administration, Marketing & Sales and R&D expenses – improved by 2.0 percentage points, driven by productivity gains in Marketing & Sales and R&D despite significant investments in new product launches. Other Income & Expense, net, remained flat in constant currencies.

ALCON

In 2011, Alcon operating income increased 85% to USD 1.5 billion on a restated basis. Since however the 2010 base only includes Alcon, Inc. from August 25, 2010, as indicated above, a comparison on a 2010 pro forma basis is more meaningful.

Operating income in 2011 of USD 1.5 billion rose 24% (+14% cc) on a pro forma basis. Operating income was impacted by the inclusion of exceptional income from a litigation settlement (USD 183 million), amortization of intangible assets (USD 1.9 billion), integration costs (USD 221 million), and the impact of manufacturing optimization (USD 57 million).

Core operating income in 2011 of USD 3.5 billion increased by 13% (+9% cc) on a pro forma basis. Core operating income margin in constant currencies increased by 0.7 percentage points on a pro forma basis. In addition, there was a positive currency impact of 0.1 percentage points, resulting in a net increase in core operating income margin of 0.8 percentage points to 35.1% of net sales.

SANDOZ

Operating income grew 8% (+10% cc) over the prior year to USD 1.4 billion. The operating income margin improved by 0.5 percentage points in constant currencies, more than offset by a negative currency impact of 0.9 percentage points, resulting in a net decrease of 0.4 percentage points to 15.0% of net sales. The constant currency margin improvement was the result of productivity improvements, the addition of the Falcon business and income from reduction of a contingent consideration obligation, partly offset by charges and provisions for legal cases in the US (USD 204 million) as well as price erosion.

In 2011, core operating income rose 10% (+11% cc) to USD 1.9 billion, as declining prices were more than offset by additional sales volume, new product launches and productivity improvements in all areas. Core operating income margin in constant currencies increased by 0.8 percentage points to 21.2% of net sales. Currency had a negative impact, resulting in a 20.3% core operating income margin.

VACCINES AND DIAGNOSTICS

Operating loss was USD 249 million for 2011 compared to an operating income of USD 612 million in 2010, due in large part to the operating income associated with A(H1N1) pandemic flu vaccine sales from the prior year not repeated in 2011.

Excluding the impact of A(H1N1), profitability improved, despite continued investment in our pipeline and meningococcal disease franchise, driven by solid underlying sales growth. 2011 included impairments of USD 143 million related to financial and intangible assets compared to USD 98 million in 2010; 2010 also included charges related to a legal settlement of USD 45 million and restructuring charges of USD 52 million.

Core operating income for the year was USD 135 million compared to USD 1.1 billion for 2010. Excluding the impact of A(H1N1), core operating income also improved over 2010.

CONSUMER HEALTH

Operating income for 2011 decreased 7% to USD 727 million (but increased 4% cc), with operating income margin in constant currencies increasing by 0.2 percentage points, more than offset by a negative currency impact of 2.3 percentage points, resulting in an operating income margin of 15.7% of net sales.

Core operating income in 2011 increased by 3% (+12% cc) to USD 873 million. Core operating income excludes the USD 115 mil-

lion exceptional charge related to the product recall. Core operating income margin in constant currencies increased by 1.8 percentage points. This result demonstrates strong operating leverage with core operating income growing significantly ahead of net sales. USD 73 million of the product recall exceptional charge relates to sales returns. As no corresponding adjustment was made at the net sales level, it had a beneficial impact of 0.4 percentage points on the core operating income margin. Currency negatively impacted core operating income margin by 2.3 percentage points, resulting in a net core operating income margin decrease of 0.5 percentage points to 18.9% of net sales.

Gross margin improved slightly by 0.1 percentage points (cc) driven by productivity gains that were partially offset by product mix. Marketing & Sales expenses decreased by 0.7 percentage points (cc) versus prior year driven by efficiency improvements in OTC partially offset by increased investment in the Animal Health business. R&D expenses decreased by 0.1 percentage points (cc) from productivity measures that more then offset continued investment in innovation. General & Administrative expenses decreased by 0.2 percentage points (cc) due to strong cost control. Other Income and Expense, net, improved by 0.3 percentage points (cc) largely driven by income from smaller product divestments.

CORPORATE INCOME & EXPENSE, NET

Corporate income & expense, net, includes the costs of Group headquarters. These net expenses of USD 670 million in 2011 were 48% higher than in 2010 primarily due to an exceptional pension curtailment gain of USD 265 million in the prior year.

NON-OPERATING INCOME AND EXPENSE

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010 USD millions	Change in USD %	Change in constant currencies %
Operating income	**10 998**	**11 526**	**– 5**	**1**
Income from associated companies	528	804	– 34	– 34
Interest expense	– 751	– 692	9	5
Other financial income and expense	– 2	64	– 103	– 140
Income before taxes	**10 773**	**11 702**	**– 8**	**– 2**
Taxes	– 1 528	– 1 733	– 12	– 6
Group net income	**9 245**	**9 969**	**– 7**	**– 2**
Attributable to:				
Shareholders of Novartis AG	*9 113*	*9 794*	*– 7*	*– 1*
Non-controlling interests	*132*	*175*	*– 25*	*– 25*
Basic EPS (USD)	3.83	4.28	– 11	– 5

CORE NON-OPERATING INCOME AND EXPENSE

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010 USD millions	Change in USD %	Change in constant currencies %
Core operating income	**15 909**	**14 006**	**14**	**16**
Income from associated companies	779	1 041	– 25	– 28
Interest expense	– 751	– 692	9	5
Other financial income and expense	– 2	64	– 103	– 140
Core income before taxes	**15 935**	**14 419**	**11**	**13**
Taxes	– 2 445	– 2 390	2	5
Core net income	**13 490**	**12 029**	**12**	**15**
Attributable to:				
Shareholders of Novartis AG	*13 273*	*11 767*	*13*	*16*
Non-controlling interests	*217*	*262*	*– 17*	*– 17*
Core basic EPS (USD)	5.57	5.15	8	11

INCOME FROM ASSOCIATED COMPANIES

Associated companies are accounted for using the equity method generally when Novartis holds between 20% and 50% of the voting shares of these companies, or where Novartis has otherwise significant influence over them. Income from associated companies is mainly derived from the Group's investments in Roche Holding AG and, prior to August 25, 2010, Alcon.

The income from associated companies fell from USD 804 million in 2010 to USD 528 million in 2011, as since August 25, 2010 Alcon, Inc. is fully consolidated and no longer accounted for as an associated company.

The following is a summary of the individual components included in the income from associated companies:

	2011 USD millions	2010 USD millions
Share of estimated Roche reported net income	702	648
Restructuring impact (2011 includes USD 41 million from 2010; 2010 includes USD 43 million from 2009)	– 41	– 132
Amortization of intangible assets	– 162	– 136
Net income effect from Roche	**499**	**380**
Share of Alcon net income		385
Catch-up for actual Alcon previous year net income		2
Revaluation of initial 25% interest to fair value		378
Recycling of losses accumulated in comprehensive income from July 7, 2008 to August 25, 2010		– 43
Amortization of intangible assets		– 289
Net income effect from Alcon (in 2010 up to August 25, 2010)		**433**
Net income from other associated companies	**29**	**– 9**
Income from associated companies	**528**	**804**

The Group's 33.3% interest in Roche's voting shares, which represents a 6.3% interest in Roche's total equity, generated income of USD 499 million in 2011, up from USD 380 million in 2010. The 2011 contribution reflects an estimated USD 702 million share of Roche's net income in 2011. This contribution, however, was reduced by USD 162 million for the amortization of intangible assets arising from the allocation of the purchase price paid by Novartis for this investment to Roche's intangible assets and an exceptional charge of USD 41 million taken in 2011 as part of Roche's restructuring charges.

The 2010 result from Alcon includes the net income up to August 25, 2010 of USD 385 million and a positive prior-year adjustment of USD 2 million which were reduced by USD 289 million for the amortization of intangible assets.

Adjusting for the exceptional items in both years, core income from associated companies decreased 25% to USD 779 million.

A survey of analyst estimates is used to estimate the Group's share of net income in Roche. Any differences between these estimates and actual results will be adjusted in the 2012 consolidated financial statements.

INTEREST EXPENSE AND OTHER FINANCIAL INCOME/EXPENSE

In 2011, interest expense increased by 9% from USD 692 million to USD 751 million. Other financial income/expense was a net expense of USD 2 million, down from a net income of USD 64 million in the prior year mainly due to lower earnings from investments as a result of the decreased average liquidity. The currency result remained stable.

TAXES

Tax expenses in 2011 were USD 1.5 billion, a 12% (6% cc) decrease from 2010. The tax rate (taxes as a percentage of income before taxes) decreased to 14.2% in 2011 from 14.8% in 2010 mainly due to the favorable impact of the Alcon, Inc. merger and as a result the ability to undertake a related tax structure reorganization. For the same reason the core tax rate (taxes as percentage of core income before taxes) decreased to 15.3% in 2011 from 16.6% in 2010. The effective tax rate is different to the expected tax rate due to various adjustments made to the IFRS results to arrive at taxable income. For further information on the main elements contributing to the difference, see the core tables in the Appendix starting on page 179 and note 6 to the Group's consolidated financial statements.

CONDENSED CONSOLIDATED BALANCE SHEETS

	Dec 31, 2011 USD millions	Dec 31, 2010 USD millions	Change USD millions
Assets			
Property, plant & equipment	15 627	15 840	– 213
Goodwill	29 943	29 692	251
Intangible assets other than goodwill	31 969	35 231	– 3 262
Financial and other non-current assets	15 873	15 870	3
Total non-current assets	**93 412**	**96 633**	**– 3 221**
Inventories	5 930	6 093	– 163
Trade receivables	10 323	9 873	450
Other current assets	2 756	2 585	171
Cash, short-term deposits and marketable securities	5 075	8 134	– 3 059
Total current assets	**24 084**	**26 685**	**– 2 601**
Total assets	**117 496**	**123 318**	**– 5 822**
Equity and liabilities			
Total equity	**65 940**	**69 769**	**– 3 829**
Financial debts	13 855	14 360	– 505
Other non-current liabilities	14 553	14 531	22
Total non-current liabilities	**28 408**	**28 891**	**– 483**
Trade payables	4 989	4 788	201
Financial debts and derivatives	6 374	8 627	– 2 253
Other current liabilities	11 785	11 243	542
Total current liabilities	**23 148**	**24 658**	**– 1 510**
Total liabilities	**51 556**	**53 549**	**– 1 993**
Total equity and liabilities	**117 496**	**123 318**	**– 5 822**

BALANCE SHEET

The total assets at December 31, 2011 amounted to USD 117.5 billion and were USD 5.8 billion lower than the level at the beginning of the year. Total non-current assets amounted to USD 93.4 billion compared to USD 96.6 billion at the beginning of the year, and included goodwill and intangible assets, which decreased to USD 61.9 billion from USD 64.9 billion at the beginning of the year. Current assets also decreased to USD 24.1 billion from USD 26.7 billion mainly due to a reduction in marketable securities, which fell by USD 3.1 billion as a result of the transaction with Alcon minority shareholders and a decrease in inventories of USD 0.2 billion while trade receivables increased by USD 0.5 billion.

Trade receivable balances include sales to government-supported healthcare systems. We continue to monitor sovereign debt issues and economic conditions in Greece, Italy, Spain, Portugal and other countries in Europe and evaluate accounts receivable in these countries for potential collection risks. Deteriorating credit and economic conditions and other factors in these countries have resulted in, and may continue to result in an increase in the average length of time that it takes to collect these accounts receivable and may require us to re-evaluate the collectability of these receivables in future periods.

The following table provides an overview of our aging analysis as of December 31, 2011 and 2010:

	2011 USD millions	2010 USD millions
Not overdue	8 967	8 684
Past due for not more than one month	498	366
Past due for more than one month but less than three months	295	320
Past due for more than three months but less than six months	249	217
Past due for more than six months but less than one year	228	208
Past due for more than one year	305	299
Provisions for doubtful trade receivables	– 219	– 221
Total trade receivables, net	**10 323**	**9 873**

Financial debt including derivatives decreased by USD 2.8 billion to USD 20.2 billion at December 31, 2011 despite the funding of acquisitions and share repurchases. The long-term financial debt of USD 13.8 billion comprises bonds and Euro Medium Term Notes totaling USD 12.7 billion and other long-term financial loans of USD 1.1 billion. The short-term financial debt of USD 6.4 billion comprises commercial paper of USD 2.2 billion and other short-term borrowings totaling USD 4.2 billion.

The Group's equity fell by USD 3.8 billion to USD 65.9 billion at December 31, 2011 compared to December 31, 2010. Total comprehensive income amounted to USD 7.3 billion, principally due to net income for 2011 (USD 9.2 billion), offset by net actuarial losses from defined benefit plans (USD 1.4 billion) and negative currency translation movements (USD 0.6 billion). This was more than offset by dividends (USD 5.4 billion), the net effect of the purchase of treasury shares (USD 3.5 billion) coupled with the acquisition of the remaining USD 2.9 billion non-controlling interest in Alcon, Inc. and an increase from equity-based compensation (USD 0.8 billion).

The acquisition of the remaining interests in Alcon, Inc. was achieved in two key steps. Prior to April 8, 2011, 4.8% of Alcon, Inc. was acquired which resulted in a reduction of consolidated equity by USD 2.4 billion. On April 8, 2011, the remaining outstanding non-controlling interests were acquired by an exchange of Novartis shares with a value of USD 9.2 billion plus a contingent value payment of USD 0.5 billion. Including acquisition related costs charged to equity of USD 0.1 billion, this resulted in total consolidated equity reductions of USD 12.2 billion which more than offset the amount of USD 6.5 billion non-controlling interests Novartis obtained through this transaction, leading to a net reduction in consolidated equity of USD 5.7 billion. Non-controlling interests in total reduced by USD 6.6 billion, mainly due to the transactions described above.

The Group's debt/equity ratio improved to 0.31:1 at December 31, 2011, compared to 0.33:1 at the end of 2010 mainly as the reduction in equity was more than offset by a reduction in short term financial debts.

LIQUIDITY, CASH FLOW AND CAPITAL RESOURCES

The following table sets forth certain information about the Group's cash flow and net debt.

	2011 USD millions	2010 USD millions	Change USD millions
Cash flows from operating activities	14 309	14 067	242
Cash flows used in investing activities	– 792	– 15 756	14 964
Cash flows used in / from financing activities	– 15 024	4 116	– 19 140
Currency translation effect on cash and cash equivalents	– 103	– 2	– 101
Net change in cash and cash equivalents	**– 1 610**	**2 425**	**– 4 035**
Change in marketable securities	– 1 449	– 11 740	10 291
Change in current and non-current financial debts	2 758	– 8 999	11 757
Change in net (debt) / liquidity	**– 301**	**– 18 314**	**18 013**
Net (debt) / liquidity at January 1	– 14 853	3 461	– 18 314
Net debt at December 31	**– 15 154**	**– 14 853**	**– 301**

Net debt consists of:

	2011 USD millions	2010 USD millions	Change USD millions
Current financial debts and derivative financial instruments	– 6 374	– 8 627	2 253
Non-current financial debts	– 13 855	– 14 360	505
Total financial debt	**– 20 229**	**– 22 987**	**2 758**
Less liquidity:			
Cash and cash equivalents	3 709	5 319	– 1 610
Marketable securities and derivative financial instruments	1 366	2 815	– 1 449
Total liquidity	**5 075**	**8 134**	**– 3 059**
Net debt at December 31	**– 15 154**	**– 14 853**	**– 301**

In 2011 the cash flow from operating activities was USD 14.3 billion, a 2% increase from USD 14.1 billion in 2010 which included USD 1.8 billion of cash collections for A (H1N1) pandemic flu vaccines.

The strong increase in operating income after adjustments for non-cash items was partially mitigated by working capital requirements to fund business expansion.

Cash outflows for investing activities were USD 0.8 billion compared to USD 15.8 billion in the prior year period. Outflows for investments in property, plant and equipment (USD 2.2 billion) and intangible and financial assets (USD 0.4 billion) as well as acquisition of businesses (USD 0.6 billion), mainly Genoptix Inc., were partly compensated by net inflows from the sale of marketable securities (USD 1.6 billion) and proceeds from the sales of various assets (USD 0.8 billion, mainly *Elidel*® marketing rights).

In 2010, outflows for investments in property, plant and equipment (USD 1.7 billion) and in intangible and financial assets (USD 0.7 billion) as well as acquisition of businesses (USD 26.7 billion), mainly Alcon, were partially funded by the sale of marketable secu-

rities, net (USD 12.6 billion) and proceeds from the sales of various assets (USD 0.7 billion).

Net cash used for financing activities was USD 15.0 billion in 2011. It was comprised of outflows of USD 5.4 billion for the dividend payment, of a net USD 3.5 billion for treasury share repurchases, USD 3.2 billion for the acquisition of the Alcon non-controlling interests and net USD 2.8 billion for the repayment of financial debts and USD 0.1 billion other financing items. In 2010 the financing activities resulted in a net cash inflow of USD 4.1 billion on account of additional debt raised for the increased Alcon investment.

Overall liquidity of USD 5.1 billion consists of USD 3.7 billion of cash and cash equivalents and of USD 1.4 billion marketable securities and derivative financial instruments. It decreased by USD 3.0 billion from the prior year level of USD 8.1 billion which included cash and cash equivalents of USD 5.3 billion and marketable securities and financial derivatives of USD 2.8 billion.

The total financial debt was USD 20.2 billion, down by USD 2.8 billion. Group net debt increased to USD 15.2 billion at the end of 2011 from USD 14.9 billion at the end of 2010. This represents a net increase of USD 0.3 billion since December 31, 2010. The peak Novartis net debt amount of USD 22.7 billion was reached at the beginning of the second quarter of 2011. This has been repaid to the extent of USD 7.5 billion by the year end. The long-term credit rating for the company continues to be double-A (Moody's Aa2; Standard & Poor's AA-; Fitch AA).

Net debt/liquidity constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under IFRS. Net debt/liquidity is presented as additional information as it is a useful indicator of the Group's ability to meet financial commitments and to invest in new strategic opportunities, including strengthening its balance sheet.

We continuously track our liquidity position and asset/liability profile. This involves modeling cash flow maturity profiles based on both historical experiences and contractual expectations to project our liquidity requirements. We seek to preserve prudent liquidity and funding capabilities.

We are not aware of significant demands to change our level of liquidity needed to support normal business activity. We intend to use part of our free cash flow to reduce our financial debt. We make use of various borrowing facilities provided by several financial institutions. We also successfully issued various bonds in 2010 and 2011. In addition, we raised funds through our commercial paper program. We have no commitments from repurchase or securities lending transactions. The principal reason for the increase in average current financial debt in 2011 compared to 2010 is the increase in commercial paper during 2011, which was used for general corporate purposes of the Novartis Group, as well as for financing purposes in connection with the acquisition of the remaining Alcon, Inc. non-controlling interests in 2011.

An overview of the movements in our current financial debt and related interest rates is set forth below:

	December 31 USD millions	Average interest rate at year end %[1]	Average balance during the year USD millions	Average interest rate during the year %[1]	Maximum balance during the year USD millions[2]
2011					
Interest bearing accounts of associates	1 357	1.36	1 463	1.25	1 626
Other bank and financial debt	2 053	3.38	3 784	1.83	7 749
Commercial paper	2 156	0.55	5 597	0.21	8 673
Current portion of non-current financial debt	778	na	479	na	911
Fair value of derivative financial instruments	30	na	97	na	184
Total current financial debt	**6 374**		**11 420**		**19 143**
2010					
Interest bearing accounts of associates	1 321	1.15	1 239	1.23	1 321
Other bank and financial debt	2 195	2.37	2 297	2.26	2 692
Commercial paper	4 969	0.20	3 603	0.28	8 719
Current portion of non-current financial debt	98	na	47	na	98
Fair value of derivative financial instruments	44	na	106	na	201
Total current financial debt	**8 627**		**7 292**		**12 631**

[1] 2010 interest is calculated based on the average balances for a quarter and 2011 interest is calculated based on the average balances for a month
[2] For 2010 maximum amount at end of any quarter in each category and for 2011 maximum amount at end of any month in each category
na – not applicable or available

Interest bearing accounts of associates relate to employee deposits in CHF from the compensation of associates employed by Swiss entities (actual interest rate: 1.25%). Other bank and financial debt refer to usual lending and overdraft facilities.

The maturity schedule of our net debt is as follows:

December 31, 2011	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Due after five years USD millions	Total USD millions
Current assets						
Marketable securities			36	638	562	1 236
Derivative financial instruments and accrued interest on derivative financial instruments	61	15	54			130
Cash and cash equivalents	3 709					3 709
Total current financial assets	**3 770**	**15**	**90**	**638**	**562**	**5 075**
Non-current liabilities						
Financial debts				9 874	3 981	13 855
Total non-current financial debt				**9 874**	**3 981**	**13 855**
Current liabilities						
Financial debts	4 039	1 100	1 205			6 344
Derivative financial instruments	7	7	16			30
Total current financial debt	**4 046**	**1 107**	**1 221**			**6 374**
Net debt	**– 276**	**– 1 092**	**– 1 131**	**– 9 236**	**– 3 419**	**– 15 154**

December 31, 2010	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Due after five years USD millions	Total USD millions
Current assets						
Marketable securities	1		593	1 441	722	2 757
Derivative financial instruments and accrued interest on derivative financial instruments	14	33	11			58
Cash and cash equivalents	5 319					5 319
Total current assets	**5 334**	**33**	**604**	**1 441**	**722**	**8 134**
Non-current liabilities						
Financial debts				8 399	5 961	14 360
Total non-current liabilities				**8 399**	**5 961**	**14 360**
Current liabilities						
Financial debts	5 480	2 093	1 010			8 583
Derivative financial instruments	23	5	16			44
Total current liabilities	**5 503**	**2 098**	**1 026**			**8 627**
Net debt	**– 169**	**– 2 065**	**– 422**	**– 6 958**	**– 5 239**	**– 14 853**

The following table provides a breakdown of liquid funds and financial debt by currency:

LIQUID FUNDS AND FINANCIAL DEBT BY CURRENCY
(as of December 31)

	Liquid funds in % 2011	Liquid funds in % 2010	Financial debt in % 2011	Financial debt in % 2010
USD	60	82	56	64
EUR	2	3	13	13
CHF	33	11	15	13
JPY			14	8
Other	5	4	2	2
	100	100	100	100

FREE CASH FLOW

Novartis defines free cash flow as cash flow from operating activities less purchase or sale of property, plant & equipment, intangible, non-current and financial assets. Cash effects realized in connection with the acquisition or divestment of subsidiaries, associated companies and non-controlling interests are excluded from free cash flow. The following is a summary of the Group's free cash flow:

	2011 USD millions	2010 USD millions	Change USD millions
Cash flows from operating activities	**14 309**	**14 067**	**242**
Purchase of property, plant & equipment	– 2 167	– 1 678	– 489
Purchase of intangible assets	– 220	– 554	334
Purchase of financial assets	– 139	– 124	– 15
Purchase of non-current non-financial assets	– 48	– 15	– 33
Proceeds from sales of property, plant & equipment	61	36	25
Proceeds from sales of intangible assets	643	545	98
Proceeds from sales of financial assets	59	66	– 7
Proceeds from sales of non-current non-financial assets	5	3	2
Group free cash flow	**12 503**	**12 346**	**157**

Free cash flow for 2011 was USD 12.5 billion, which represents an increase of 1% or USD 0.2 billion compared to the prior-year. Main contributors were Pharmaceuticals with USD 10.8 billion followed by Alcon with USD 3.5 billion while other divisions contributed in total USD 2.1 billion. Corporate had a free cash outflow of USD 3.9 billion mainly on account of interest and tax payments.

Free cash flow of USD 12.5 billion was deployed for dividend payments of USD 5.4 billion and share repurchases of USD 5.9 billion (including USD 2.4 billion repurchased indirectly via Alcon, Inc. to reduce the dilutive impact of the subsequent merger of Alcon, Inc. into Novartis AG). In total, dividends and share repurchases utilized 90% of the Group's 2011 free cash flow.

Free cash flow is presented as additional information because Novartis considers it is a useful indicator of the Group's ability to operate without relying on additional borrowing or the use of existing cash. Free cash flow is a measure of the net cash generated that is available for debt repayment and investment in strategic opportunities. The Group uses free cash flow as a performance measure when making internal comparisons of the results of divisions. Free cash flow constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under IFRS. Free cash flow is not intended to be a substitute measure for cash flow from operating activities (as determined under IFRS).

CONTRACTUAL OBLIGATIONS

The following table summarizes the Group's contractual obligations and other commercial commitments as well as the effect these obligations and commitments are expected to have on the Group's liquidity and cash flow in future periods:

		Payments due by period			
	Total USD millions	**Less than 1 year USD millions**	**2–3 years USD millions**	**4–5 years USD millions**	**After 5 years USD millions**
Non-current financial debt	**14 633**	778	4 818	5 056	3 981
Operating leases	**3 036**	355	445	233	2 003
Unfunded pensions and other post-retirement obligations	**1 808**	85	173	186	1 364
Research & Development					
– Unconditional commitments	**343**	105	126	81	31
– Potential milestone commitments	**2 653**	282	665	560	1 146
Purchase commitments					
– Property, plant & equipment	**583**	493	75	13	2
Total contractual cash obligations	**23 056**	**2 098**	**6 302**	**6 129**	**8 527**

The Group intends to fund the R&D and purchase commitments with internally generated resources.

SUMMARY OF EQUITY MOVEMENTS

	Number of shares (in millions)			Issued share capital and reserves attributable to Novartis AG shareholders		
	2011	**2010**	**Change**	**2011 USD millions**	**2010 USD millions**	**Change USD millions**
Balance at beginning of year	**2 289**	**2 274**	**15**	**63 196**	**57 387**	**5 809**
Shares issued in connection with the merger with Alcon	108		108	6 009		6 009
Treasury shares exchanged in connection with the merger with Alcon	57		57	3 154		3 154
Excess of the purchase price for acquiring non-controlling interest compared to the recorded amounts and other impacts of change of ownership in consolidated entities				– 5 664	– 170	– 5 494
Share buy-backs:						
Shares acquired to be held in Group Treasury	– 21		– 21	– 1 131	– 18	– 1 113
Shares acquired to be cancelled	– 39		– 39	– 2 360		– 2 360
Other treasury shares movements	13	15	– 2	837	959	– 122
Dividends				– 5 368	– 4 486	– 882
Net income of the year attributable to shareholders of Novartis AG				9 113	9 794	– 681
Other comprehensive income attributable to shareholders of Novartis AG				– 1 942	– 270	– 1 672
Balance at end of year	**2 407**	**2 289**	**118**	**65 844**	**63 196**	**2 648**

A total of 165 million Novartis shares with a fair value of USD 9.2 billion were exchanged on April 8, 2011 to obtain the outstanding non-controlling interest in Alcon, Inc. These shares consisted of 108 million newly issued shares and 57 million treasury shares.

In 2011 a total of 60 million shares, net were purchased for USD 3.5 billion. Out of these, 39 million shares were acquired under the 2nd line of the SIX Swiss Exchange repurchase program with the intention to be cancelled and 21 million shares were repurchased on the 1st trading line of the SIX Swiss Exchange with the intention of being retained in Group Treasury. 13 million shares were transferred to associates as part of the equity-settled compensation or sold (2010: 15 million shares) resulting in a total net reduction of 9.2 million treasury shares (2010: 15.1 million shares).

EARNINGS BEFORE INTEREST, TAX, DEPRECIATION AND AMORTIZATION

The Group defines the non-IFRS measure of earnings before interest, tax, depreciation and amortization (EBITDA) as operating income excluding depreciation of property, plant & equipment (including any related impairment charges), amortization of intangible assets (including any related impairment charges), income from associated companies, interest expense, other financial income/expense, other expense and taxes.

	2011 USD millions	2010 USD millions	Change USD millions
Operating income	**10 998**	**11 526**	**– 528**
Depreciation of property, plant & equipment	1 728	1 363	365
Amortization of intangible assets	3 028	1 135	1 893
Impairments of property, plant & equipment and intangible assets	1 032	921	111
Group EBITDA	**16 786**	**14 945**	**1 841**

The following table provides an overview of EBITDA by segment:

	2011 USD millions	% of net sales	2010[1] USD millions	% of net sales
Pharmaceuticals	10 544	32.4	10 540	34.8
Alcon	3 731	37.5	988	22.2
Sandoz	2 134	22.5	1 910	22.2
Vaccines and Diagnostics	107	5.4	985	33.8
Consumer Health	852	18.4	891	20.4
Corporate and other	– 582		– 369	
Group EBITDA	**16 786**	28.7	**14 945**	**29.5**

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

As indicated above, EBITDA is an additional non-IFRS measure. Compared to our definition of "Core" which is also a non-IFRS measure, EBITDA only adjusts for the impact of the significant non-cash items contained in operating income relating to depreciation, amortization and impairment charges but does not take into account any other exceptional items.

ENTERPRISE VALUE

Enterprise value is a non-IFRS measure representing the total amount that shareholders and debt holders have invested in Novartis, less the Group's liquidity.

	Dec 31, 2011 USD millions	Dec 31, 2010 USD millions	Change USD millions
Market capitalization	137 511	133 731	3 780
Non-controlling interests	96	6 573	– 6 477
Financial debts	20 229	22 987	– 2 758
Liquidity	– 5 075	– 8 134	3 059
Enterprise value	**152 761**	**155 157**	**– 2 396**
Enterprise value/EBITDA	**9**	**10**	

NOVARTIS ECONOMIC VALUE ADDED

Novartis utilizes its own definition for measuring Novartis Economic Value Added (NVA), a non-IFRS measure, which is utilized for determining payouts under the Long-Term Performance Plan. The following table shows NVA for 2011 and 2010 utilizing the Novartis definition.

	Year ended Dec 31, 2011 USD millions	Year ended Dec 31, 2010 USD millions	Change in USD %
Operating income	**10 998**	**11 526**	**– 5**
Income from associated companies	528	804	– 34
Operating interest	– 284	– 324	– 12
Operating tax	– 2 296	– 2 169	6
Capital charge	– 7 397	– 5 495	35
Novartis Economic Value Added	**1 549**	**4 342**	**– 64**

Operating interest is the internal charge on average working capital based on the short-term borrowing rates of the entity owning them.

Operating tax is the internal tax charge for each entity applying the applicable tax rate to the profit before tax of each entity unadjusted for tax-disallowed items or tax loss carryforwards.

The capital charge is the notional interest charge on the Group's average non-current assets based on an internally calculated weighted average cost of capital for the Group.

NET NOVARTIS ADDED VALUE

Net Novartis Added Value (NNAV) is a non-IFRS measure, which describes, among other items, the percentage of Group sales used either directly or individually for payments to suppliers, associates, public authorities, financial institutions or our shareholders.

A total of 46% of the 2011 revenue from net sales was used to purchase goods and services from suppliers. Of the total of USD 26.6 billion of NNAV, 56% was paid either directly or indirectly to associates, 14% was retained in the business for future expansion and 9% was paid to public authorities and financial institutions. Income attributed to non-controlling interests and dividends paid to shareholders of Novartis AG represented 21% of the NNAV.

ORIGIN OF NET NOVARTIS ADDED VALUE

	2011 USD millions	2011 % of net sales	2010 % of net sales
Net sales	**58 566**	**100**	**100**
Other revenues, change in inventory and own manufactured items	763	1.3	– 0.1
	59 329	**101.3**	**99.9**
Services bought from third parties:			
Material costs and other operating expenses	– 26 756	– 45.7	– 44.0
Gross added value	**32 573**	**55.6**	**55.9**
Depreciation, amortization and impairments	– 5 980	– 10.2	– 7.1
Financial income	– 2	0.0	0.1
Net Novartis Added Value	**26 591**	**45.4**	**48.9**

INTERNAL CONTROL OVER FINANCIAL REPORTING

The Group's management has assessed the effectiveness of internal control over financial reporting. The Group's independent statutory auditor also issued an opinion on the effectiveness of internal control over financial reporting concluding that the Group maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011.

CORE RESULTS AS DEFINED BY NOVARTIS

The Group's core results – including core operating income, core net income and core earnings per share – exclude the amortization of intangible assets, impairment charges, expenses relating to the integration of acquisitions as well as other items that are, or are expected to accumulate within the year to be, over a USD 25 million threshold that management deems exceptional.

Novartis believes that investor understanding of the Group's performance is enhanced by disclosing core measures of performance because, since they exclude these exceptional items which can vary significantly from year to year, the core measures enable better comparison across years. For this same reason, Novartis uses these core measures in addition to IFRS and other measures as important factors in assessing the Group's performance.

The following are examples of how these core measures are utilized:

– In addition to monthly reports containing financial information prepared under IFRS, senior management receives a monthly analysis incorporating these core measures.
– Annual budgets are prepared for both IFRS and core measures.

Despite the use of these measures by management in setting goals and measuring the Group's performance, these are non-IFRS measures that have no standardized meaning prescribed by IFRS. As a result, such measures have limits in their usefulness to investors.

Because of their non-standardized definitions, the core measures (unlike IFRS measures) may not be comparable to the calculation of similar measures of other companies. These core measures are presented solely to permit investors to more fully understand how the Group's management assesses underlying performance. These core measures are not, and should not be viewed as, a substitute for IFRS measures.

As an internal measure of Group performance, these core measures have limitations, and the performance management process is not solely restricted to these metrics. A limitation of the core measures is that they provide a view of the Group's operations without including all events during a period, such as the effects of an acquisition or amortization of purchased intangible assets.

2011 AND 2010 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS – GROUP

2011	IFRS results USD millions	Amortization of intangible assets[1] USD millions	Impairments[2] USD millions	Acquisition-related divestment gains, restructuring and integration charges[3] USD millions	Exceptional items[4] USD millions	Core results USD millions
Gross profit	**40 392**	**2 918**	**278**	**5**	**246**	**43 839**
Operating income	**10 998**	**3 028**	**1 224**	**148**	**511**	**15 909**
Income before taxes	**10 773**	**3 238**	**1 224**	**148**	**552**	**15 935**
Taxes	– 1 528					– 2 445[5]
Net income	**9 245**					**13 490**
Basic earnings per share (USD)[6]	3.83					5.57
The following are adjustments to arrive at Core Gross Profit						
Net sales	58 566				117	58 683
Cost of Goods Sold	– 18 983	2 918	278	5	129	– 15 653
The following are adjustments to arrive at Core Operating Income						
Marketing & Sales	– 15 079				2	– 15 077
Research & Development	– 9 583	93	341		– 90	– 9 239
General & Administration	– 2 970	13				– 2 957
Other income	1 354		– 3	– 102	– 806	443
Other expense	– 3 116	4	608	245	1 159	– 1 100
The following are adjustments to arrive at Core Income before taxes						
Income from associated companies	528	210			41	779

[1] Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets; Other expense includes amortization of intangible assets; Income from associated companies includes the recurring amortization of the purchase price allocation related to intangible assets included in the Novartis equity-method accounting for Roche of USD 162 million and USD 48 million for the Novartis share of the estimated Roche core items.

[2] Impairments: Cost of Goods Sold includes impairment charges related to *Tekturna/Rasilez*, Consumer Health in the US, and other intangible assets; Research & Development includes impairment charges principally for PTK796, AGO178 (agomelatine), PRT128, SMC021 and In Process Research & Development; Other income includes an impairment reversal; Other expense includes impairments of USD 314 million related to *Tekturna/Rasilez*, USD 47 million related to SMC021, USD 17 million related to the Group-wide rationalization of manufacturing sites, and amounts for financial assets.

[3] Acquisition-related divestment gains, restructuring and integration charges: Cost of Goods Sold includes an acquisition related inventory step-up adjustment; Other income includes a gain from product sales required by regulators to approve the Alcon merger; Other expense relates primarily to Alcon integration costs.

[4] Exceptional items: Net sales to third parties includes a returns provision related to *Tekturna/Rasilez* and a recall provision related to over-the-counter products; Cost of Goods Sold and Marketing & Sales include charges related to Consumer Health in the US; Cost of Goods Sold, Research & Development, Other income, and Other expense include restructuring charges related to the Group-wide rationalization of manufacturing sites; Cost of Goods Sold and Other expense include Swiss restructuring charges of USD 254 million; Research & Development includes a reduction to a contingent consideration liability related to a business combination of USD 106 million in Sandoz; Other income and expense include a net USD 183 million gain from the Jump litigation settlement and a USD 100 million settlement gain, a USD 85 million insurance settlement gain, product divestment gains of USD 378 million, charges of USD 284 million related to legal settlements, USD 161 million for IT and finance restructuring projects, an amount of USD 295 million related to *Tekturna/Rasilez*, an amount of USD 13 million related to SMC021, and other restructuring charges; Income from associated companies reflects a charge of USD 41 million for the Novartis share of Roche's restructuring.

[5] Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally, this results in amortization and impairment of intangible assets and acquisition-related restructuring and integration items having a full tax impact. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of USD 5.2 billion to arrive at the core results before tax amounts to USD 917 million. This results in the average tax rate on the adjustments being 17.8%.

[6] Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

2010	IFRS results USD millions	Amortization of intangible assets[1] USD millions	Impairments[2] USD millions	Acquisition-related divestment gains, restructuring and integration charges[3] USD millions	Exceptional items[4] USD millions	Core results USD millions
Gross profit	**37 073**	**1 061**	**– 90**	**471**	**2**	**38 517**
Operating income	**11 526**	**1 135**	**981**	**600**	**– 236**	**14 006**
Income before taxes	**11 702**	**1 560**	**981**	**280**	**– 104**	**14 419**
Taxes	– 1 733					– 2 390[5]
Net income	**9 969**					**12 029**
Basic earnings per share (USD)[6]	4.28					5.15
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	– 14 488	1 061	– 90	471	2	– 13 044
The following are adjustments to arrive at Core Operating Income						
Marketing & Sales	– 13 316	1				– 13 315
Research & Development	– 9 070	69	903		18	– 8 080
General & Administration	– 2 481	4				– 2 477
Other income	1 234		– 10		– 739	485
Other expense	– 1 914		178	129	483	– 1 124
The following are adjustments to arrive at Core Income before taxes						
Income from associated companies	804	425		– 320	132	1 041

[1] Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Marketing & Sales includes the recurring amortization of intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets; Income from associated companies includes the recurring amortization of the purchase price allocation related to intangible assets, primarily for the Roche and Alcon investments.

[2] Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including an additional reversal of USD 100 million in Pharmaceuticals for an impairment charge taken in 2007 for *Famvir*; Research & Development includes write-offs related to in-process Research & Development, mainly charges totalling USD 856 million for the discontinuation of *Mycograb*, albinterferon alfa-2b, PTZ601 and ASA404 development projects; Other income includes the reversal of impairments, primarily for property, plant & equipment; Other expense includes impairments, primarily for financial assets, thereof USD 45 million in Pharmaceuticals, USD 98 million in Vaccines and Diagnostics and USD 20 million in Corporate as well as USD 14 million in Vaccines and Diagnostics for property, plant & equipment.

[3] Acquisition-related restructuring and integration items: Cost of Goods Sold includes mainly charges of USD 467 million related to the required inventory step-up to estimated fair value in Alcon; Other expense includes charges in Corporate of USD 99 million related to the acquisition of Alcon and USD 30 million recorded in Alcon related to the change of majority ownership of Alcon; Income from associated companies includes a USD 378 million revaluation gain on the initial 25% interest in Alcon, a USD 43 million charge for the recycling of losses accumulated in comprehensive income related to Alcon since its inclusion as an associated company in 2008, and a USD 15 million charge for the change of majority ownership.

[4] Exceptional items: Cost of Goods Sold includes charges related to inventory write-off in Vaccines and Diagnostics due to a restructuring program; Research & Development includes an expense of USD 18 million for termination of a co-development contract in Sandoz; Other income includes a divestment gain of USD 392 million for the divestment of *Enablex* in Pharmaceuticals, proceeds of USD 42 million from a legal settlement in Pharmaceuticals with Teva regarding *Famvir*, a divestment gain of USD 33 million for *Tofranil* in Pharmaceuticals and a Swiss pension curtailment gain of USD 265 million in Corporate; Other expense includes mainly a USD 152.5 million provision for a gender discrimination case in the US in Pharmaceuticals, charges of USD 203 million for restructuring programs in Pharmaceuticals, Vaccines and Diagnostics, and Sandoz, a USD 25.5 million provision in connection with a government investigation in the US in Pharmaceuticals, USD 45 million for a legal settlement in Vaccines and Diagnostics, and a USD 38 million charge for a legal settlement in Sandoz; Income from associated companies reflects an additional charge of USD 43 million for the Novartis share of Roche's restructuring charges for Genentech taken in the second half of 2009 but recorded by Novartis in 2010 as well as an estimated charge of USD 89 million for the Novartis share of Roche's restructuring that was announced in late 2010.

[5] Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally, this results in amortization and impairment of intangible assets and acquisition-related restructuring and integration items having a full tax impact. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of USD 2.7 billion to arrive at the core results before tax amounts to USD 657 million. This results in the average tax rate on the adjustments being 24.2%.

[6] Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

2011 AND 2010[1] RECONCILIATION OF SEGMENT OPERATING INCOME TO CORE OPERATING INCOME

	Pharmaceuticals		Alcon	
	2011 USD millions	2010 USD millions	2011 USD millions	2010[2] USD millions
Operating income	**8 296**	**8 471**	**1 472**	**796**
Amortization of intangible assets	**423**	**457**	**1 928**	**65**
Impairments				
Intangible assets	552	796	20	
Property, plant & equipment - manufacturing sites[3]	12		5	
Other property, plant & equipment	391	– 4		
Financial assets	30	41	4	
Total impairment charges	**985**	**833**	**29**	
Acquisition-related items				
- Gains	– 81		– 21	
- Expenses			233	489
Total acquisition related items, net	**– 81**		**212**	**489**
Exceptional items				
Exceptional divestment gains	– 334	– 425		
Swiss restructuring expenses[3]	249			
Restructuring expenses - non-Swiss manufacturing sites[3]	90	11	52	
Other restructuring expenses	81	100		
Legal-related items				
- Income	– 100	– 42	– 229	
- Expense	80	181	45	
Swiss pension curtailment gain				
Other exceptional income			– 17	
Other exceptional expense	351			
Total exceptional items	**417**	**– 175**	**– 149**	
Total adjustments	**1 744**	**1 115**	**2 020**	**554**
Core operating income	**10 040**	**9 586**	**3 492**	**1 350**
Core return on net sales	**30.9%**	**31.6%**	**35.1%**	**30.4%**

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

[2] Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010. Ophthalmic activities transferred from Pharmaceuticals and CIBA Vision transferred from Consumer Health included for the full year.

[3] Related to the Group-wide rationalization of manufacturing sites (Swiss portion amounts to approximately USD 100 million)

Sandoz		Vaccines and Diagnostics		Consumer Health		Corporate		Total	
2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions
1 422	**1 321**	**– 249**	**612**	**727**	**778**	**– 670**	**– 452**	**10 998**	**11 526**
383	**293**	**231**	**259**	**59**	**61**	**4**		**3 028**	**1 135**
25	11	8		14	6			619	813
			14					17	14
1		2		2				396	– 4
		135	98			23	19	192	158
26	**11**	**145**	**112**	**16**	**6**	**23**	**19**	**1 224**	**981**
								– 102	
	12	5				12	99	250	600
	12	**5**				**12**	**99**	**148**	**600**
				– 44				– 378	– 425
				5				254	
3		3	38	4				152	49
– 11	49			– 1				69	149
								– 329	– 42
204	56		45					329	282
							– 265		– 265
– 106						– 85		– 208	
				107		164	16	622	16
90	**105**	**3**	**83**	**71**		**79**	**– 249**	**511**	**– 236**
499	**421**	**384**	**454**	**146**	**67**	**118**	**– 131**	**4 911**	**2 480**
1 921	**1 742**	**135**	**1 066**	**873**	**845**	**– 552**	**– 583**	**15 909**	**14 006**
20.3%	**20.3%**	**6.8%**	**36.5%**	**18.9%**	**19.4%**			**27.2%**	27.7%

ALCON SEGMENT RECONCILIATION FROM 2010 RESTATED TO PRO FORMA DATA

On August 25, 2010 Novartis acquired a majority interest in Alcon, Inc. and its results have been included in the consolidated IFRS results of the Novartis Group and the Alcon segment since then (see note 2 to our consolidated financial statements for further information).

Novartis believes that the presentation of pro forma information will assist investors in their understanding of the combined companies' operating performance by setting a base for comparison with the 2011 consolidated results of Alcon. Without these pro forma results, the Alcon 2010 restated results through August 25, 2010 would consist only of the results from CIBA Vision and those Pharmaceuticals ophthalmics products which were transferred to Alcon. As a result, it is considered that a comparison between the 2011 Alcon results and the 2010 restated results would not be meaningful.

Therefore Novartis prepared pro forma information assuming the Alcon acquisition was completed on January 1, 2010. The pro forma information does not purport to present what the actual results of operations would have been had the transaction actually occurred on the date indicated.

The pro forma information includes the full 2010 consolidated income statement data for Alcon, Inc. from January 1, 2010 and adjusts for the impact of divestments required by regulators to approve the Alcon acquisition as well as for exceptional costs related to the acquisition of majority ownership of Alcon.

(in USD millions)	2010 Restated	Consolidated results of Alcon, Inc., from Jan. 1, 2010 to Aug. 25, 2010[1]	2010 Pro forma
Net sales to third parties	**4 446**	**4 585**	**9 031**
Sales to other segments	14		14
Net sales of segments	**4 460**	**4 585**	**9 045**
Other revenues	34	5	39
Cost of Goods Sold	– 1 760	– 2 442	– 4 202
Gross profit	**2 734**	**2 148**	**4 882**
Marketing & Sales	– 1 299	– 1 060	– 2 359
Research & Development	– 352	– 478	– 830
General & Administration	– 255	– 255	– 510
Other income	7		7
Other expense	– 39	30	– 9
Operating income	**796**	**385**	**1 181**
as % of net sales	*17.9%*	*8.4%*	*13.1%*
Core adjustments			
Cost of Goods Sold	519	1 379	1 898
Research & Development	1	3	4
General & Administration	4	8	12
Other expense	30	– 30	
Core Operating income	**1 350**	**1 745**	**3 095**
as % of net sales	*30.4%*	*38.1%*	*34.3%*

[1] This assumes that the acquisition of Alcon, Inc. had occured on January 1, 2010. It therefore also reflects USD 1.4 billion of additional amortization of intangible assets arising from the purchase price allocation and excludes USD 145 million of change of control and acquisition related costs.

SUMMARY OF QUARTERLY FINANCIAL DATA FOR 2011 AND 2010

USD millions unless indicated otherwise	Q1	Q2	Q3	Q4	2011	Q1	Q2	Q3	Q4	2010
Net sales	**14 027**	**14 915**	**14 843**	**14 781**	**58 566**	**12 131**	**11 716**	**12 578**	**14 199**	**50 624**
Other revenues	195	208	191	215	809	225	205	242	265	937
Cost of Goods Sold	– 4 458	– 4 619	– 4 788	– 5 118	– 18 983	– 3 096	– 3 206	– 3 662	– 4 524	– 14 488
Gross profit	**9 764**	**10 504**	**10 246**	**9 878**	**40 392**	**9 260**	**8 715**	**9 158**	**9 940**	**37 073**
Marketing & Sales	– 3 524	– 3 904	– 3 652	– 3 999	– 15 079	– 3 014	– 3 145	– 3 167	– 3 990	– 13 316
Research & Development	– 2 188	– 2 397	– 2 475	– 2 523	– 9 583	– 2 037	– 1 893	– 2 548	– 2 592	– 9 070
General & Administration	– 694	– 738	– 734	– 804	– 2 970	– 570	– 543	– 574	– 794	– 2 481
Other income	549	502	213	90	1 354	180	389	97	568	1 234
Other expense	– 499	– 645	– 647	– 1 325	– 3 116	– 308	– 562	– 379	– 665	– 1 914
Operating income	**3 408**	**3 322**	**2 951**	**1 317**	**10 998**	**3 511**	**2 961**	**2 587**	**2 467**	**11 526**
Income from associated companies	117	130	151	130	528	103	158	368	175	804
Interest expense	– 189	– 190	– 198	– 174	– 751	– 133	– 175	– 188	– 196	– 692
Other financial income and expense	22	– 16	4	– 12	– 2	49	14	27	– 26	64
Income before taxes	**3 358**	**3 246**	**2 908**	**1 261**	**10 773**	**3 530**	**2 958**	**2 794**	**2 420**	**11 702**
Taxes	– 537	– 520	– 420	– 51	– 1 528	– 582	– 521	– 475	– 155	– 1 733
Group net income	**2 821**	**2 726**	**2 488**	**1 210**	**9 245**	**2 948**	**2 437**	**2 319**	**2 265**	**9 969**
Attributable to:										
Shareholders of Novartis AG	*2 770*	*2 704*	*2 464*	*1 175*	*9 113*	*2 933*	*2 417*	*2 275*	*2 169*	9 794
Non-controlling interests	*51*	*22*	*24*	*35*	*132*	*15*	*20*	*44*	*96*	175
Basic earnings per share (USD)	*1.21*	*1.13*	*1.02*	*0.49*	*3.83*	*1.29*	*1.06*	*0.99*	*0.95*	*4.28*
Net sales by segment [1]										
Pharmaceuticals	**7 698**	**8 338**	**8 159**	**8 313**	**32 508**	**7 227**	**7 609**	**7 500**	**7 970**	**30 306**
Alcon	**2 416**	**2 625**	**2 492**	**2 425**	**9 958**	**507**	**516**	**1 138**	**2 285**	**4 446**
Sandoz	**2 373**	**2 466**	**2 340**	**2 294**	**9 473**	**2 001**	**1 973**	**2 198**	**2 420**	**8 592**
Vaccines and Diagnostics	**371**	**299**	**655**	**671**	**1 996**	**1 361**	**564**	**632**	**361**	**2 918**
Consumer Health	**1 169**	**1 187**	**1 197**	**1 078**	**4 631**	**1 035**	**1 054**	**1 110**	**1 163**	**4 362**
Group net sales	**14 027**	**14 915**	**14 843**	**14 781**	**58 566**	**12 131**	**11 716**	**12 578**	**14 199**	**50 624**
Operating income by segment [1]										
Pharmaceuticals	**2 461**	**2 791**	**2 219**	**825**	**8 296**	**2 245**	**2 260**	**1 765**	**2 201**	**8 471**
Alcon	**524**	**371**	**341**	**236**	**1 472**	**147**	**108**	**233**	**308**	**796**
Sandoz	**412**	**283**	**333**	**394**	**1 422**	**310**	**289**	**430**	**292**	**1 321**
Vaccines and Diagnostics	**– 101**	**– 214**	**24**	**42**	**– 249**	**839**	**– 42**	**68**	**– 253**	**612**
Consumer Health	**265**	**225**	**210**	**27**	**727**	**157**	**221**	**276**	**124**	**778**
Corporate income & expense, net	– 153	– 134	– 176	– 207	– 670	– 229	83	– 227	– 259	– 632
Group operating income	**3 408**	**3 322**	**2 951**	**1 317**	**10 998**	**3 511**	**2 961**	**2 587**	**2 467**	**11 526**
Core operating income	**4 012**	**4 235**	**4 112**	**3 550**	**15 909**	**3 865**	**3 276**	**3 699**	**3 166**	**14 006**
Core net income	**3 376**	**3 564**	**3 539**	**3 011**	**13 490**	**3 309**	**2 771**	**3 146**	**2 803**	**12 029**
Core basic earnings per share	*1.41*	*1.48*	*1.45*	*1.23*	*5.57*	*1.45*	*1.20*	*1.36*	*1.14*	*5.15*

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159

SUMMARY OF GROUP FINANCIAL DATA 2007–2011

USD millions unless indicated otherwise		2011	2010[1]	2009[1]	2008[2]	2007[2]
Net sales to third parties from continuing operations		**58 566**	**50 624**	**44 267**	**41 459**	**38 072**
Change relative to preceding year	%	15.7	14.4	6.8	8.9	10.7
Pharmaceuticals net sales		32 508	30 306	28 287	26 331	24 025
Change relative to preceding year	%	7.3	7.1	7.4	9.6	6.4
Alcon net sales		9 958	4 446	1 965	1 688	1 531
Change relative to preceding year	%	nm	nm	16.4	10.3	7.6
Sandoz net sales		9 473	8 592	7 493	7 557	7 169
Change relative to preceding year	%	10.3	14.7	– 0.8	5.4	20.3
Vaccines and Diagnostics net sales		1 996	2 918	2 424	1 759	1 452
Change relative to preceding year	%	– 31.6	20.4	37.8	21.1	n.m.
Consumer Health net sales from continuing operations		4 631	4 362	4 098	4 124	3 895
Change relative to preceding year	%	6.2	6.4	– 0.6	5.9	12.0
Net sales from discontinued operations[3]						1 728
Operating income from continuing operations		**10 998**	**11 526**	**11 526**	**8 964**	**6 781**
Change relative to preceding year	%	– 4.6	15.5	28.6	32.2	– 11.3
As a % of net sales	%	18.8	22.8	26.0	21.6	17.8
As a % of average equity	%	16.2	18.1	21.4	18.0	15.0
As a % of average net operating assets	%	13.3	16.6	21.8	19.1	16.7
Operating income from discontinued operations[3]					70	6 152
Net income from continuing operations		**9 245**	**9 969**	**8 454**	**8 163**	**6 540**
Change relative to preceding year	%	– 7.3	17.9	3.6	24.8	– 4.2
As a % of net sales	%	15.8	19.7	19.1	19.7	17.2
Net income from discontinued operations[3]					70	5 428
Total Group net income		**9 245**	**9 969**	**8 454**	**8 233**	**11 968**
As a % of average equity	%	13.6	15.7	15.7	16.5	26.4
Dividends of Novartis AG[4]		**5 762**	**5 368**	**4 486**	**3 941**	**3 345**
As % of net income from continuing operations[5]	%	63.2	54.8	53.4	48.5	51.3
Cash flows from operating activities[6]		**14 309**	**14 067**	**12 191**	**9 769**	**9 210**
Change relative to preceding year	%	1.7	15.4	24.8	6.1	10.9
As a % of net sales	%	24.4	27.8	27.5	23.6	24.2
Free cash flow[6]		**12 503**	**12 346**	**9 446**	**7 646**	**6 359**
Change relative to preceding year	%	1.3	30.7	23.5	20.2	4.3
As a % of net sales	%	21.3	24.4	21.3	18.4	16.7
Purchase of property, plant & equipment[6]		**2 167**	**1 678**	**1 887**	**2 106**	**2 549**
Change relative to preceding year	%	29.1	– 11.1	– 10.4	– 17.4	43.3
As a % of net sales	%	3.7	3.3	4.3	5.1	6.7
Depreciation of property, plant & equipment[6]		**1 728**	**1 363**	**1 241**	**1 205**	**1 130**
As a % of net sales	%	3.0	2.7	2.8	2.9	3.0
Core Research & Development[6]		**9 239**	**8 080**	**7 287**	**6 776**	**6 186**
As a % of net sales	%	15.8	16.0	16.5	16.3	16.2
Core Pharmaceuticals Division Research & Development		**6 860**	**6 344**	**5 909**	**5 335**	**4 914**
As a % of Pharmaceuticals Division net sales	%	21.1	20.9	20.9	20.3	20.5
Total assets		**117 496**	**123 318**	**95 505**	**78 299**	**75 452**
Liquidity		5 075	8 134	17 449	6 117	13 201
Equity		65 940	69 769	57 462	50 437	49 396
Debt/equity ratio		0.31:1	0.33:1	0.24:1	0.15:1	0.12:1
Current ratio		1.04:1	1.08:1	1.7:1	1.3:1	1.6:1
Net operating assets[6]		**81 094**	**84 622**	**54 001**	**51 684**	**41 989**
Change relative to preceding year	%	– 4.2	56.7	4.5	23.1	7.3
As a % of net sales	%	138	167	122	125	110
Personnel costs[6]		**14 913**	**12 240**	**10 920**	**10 634**	**9 893**
As a % of net sales	%	25.5	24.2	24.7	25.6	26.0
Full-time equivalent associates at year-end[6]		**123 686**	**119 418**	**99 834**	**96 717**	**98 200**
Net sales per full-time equivalent associate (average)[6]	USD	481 818	461 788	450 438	425 402	395 675

[1] Restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159
[2] 2007 and 2008 restated only for the transfer of CIBA Vision from Consumer Health to Alcon
[3] Discontinued Consumer Health operations (Gerber, Medical Nutrition and Nutrition & Santé).
[4] 2011: Proposed dividend for approval at the Annual General Meeting in February 2012. In all years, figure reflects only amounts paid to third party shareholders of Novartis AG.
[5] Based on net income from continuing operations attributable to the shareholders of Novartis AG
[6] Only continuing operations.
nm - not meaningful

NOVARTIS SHARE DEVELOPMENTS IN 2011

– Swiss-listed Novartis shares fall 2% to CHF 53.70
– American Depositary Shares (ADS) fall 3% to USD 57.17

Novartis shares finished at CHF 53.70, a decrease of 2% from the 2010 year-end closing price of CHF 54.95. The Novartis American Depositary Shares (ADS) decreased by 3% to USD 57.17 from USD 58.95 in 2010. The Swiss Market Index (SMI) in comparison fell at a 7.8% pace in 2011, whereas the world pharmaceutical index (MSCI) grew by 9.0% in the year. Over a longer-term period, Novartis has consistently delivered a solid performance, providing a 8.7% compounded annual total shareholder return between January 1, 1996, and December 31, 2011, clearly exceeding the compounded returns of 7.3% of its large pharmaceutical peers or the returns of 7.5% of the world pharmaceutical index (MSCI).

On April 8, 2011, 165 million shares were issued in connection with the merger with Alcon, composed of 108 million newly issued shares and 57 million treasury shares. This represented an increase in the shares outstanding of 7.2% since December 31, 2010.

The market capitalization of Novartis amounted to USD 138 billion as of December 31, 2011, compared to USD 134 billion as of December 31, 2010.

SHARE REPURCHASE PROGRAMS

In 2011, Novartis has carried out the share repurchases committed to at the time of the Alcon merger announcement. These share repurchases amounted to USD 5.3 billion including the purchases of USD 2.4 billion of Alcon shares, a contingent value payment of USD 0.5 billion and repurchases of USD 2.4 billion of Novartis shares (39.4 million shares). All of these Novartis shares were repurchased on the second trading line during the first six months of 2011. In addition, in the second half of 2011, Novartis repurchased USD 1.1 billion (20.4 million shares) of own shares on the first trading line. These shares will be kept as treasury shares to mostly cover future employee participation programs.

No shares were cancelled in 2011 as none had been repurchased in the 12 months to December 2010.

Novartis will propose to shareholders at the Annual General Meeting in February 2012 to cancel all shares repurchased on the second trading line during 2011. If approved, a total of 39.4 million shares, which corresponds to 1.4% of the registered Novartis share capital, will be cancelled, and the share capital will be reduced accordingly.

CONTINUOUSLY RISING DIVIDEND SINCE 1996

The Board of Directors proposes a 2% increase in the dividend payment for 2011 to CHF 2.25 per share (2010: CHF 2.20) for approval at the Annual General Meeting on February 23, 2012. This represents the 15th consecutive increase in the dividend paid per share since the creation of Novartis in December 1996. If the 2011 dividend proposal is approved by shareholders, dividends paid out on the outstanding shares will amount to approximately USD 5.8 billion (2010: USD 5.4 billion), resulting in a payout ratio of 63% of net income attributable to Novartis shareholders (2010: 55%). Based on the 2011 year-end share price of CHF 53.70, the dividend yield will be 4.2% (2010: 4.0%). The dividend payment date has been set for March 1, 2012. With the exception of 146.3 million treasury shares, all shares issued are dividend-bearing.

DIRECT SHARE PURCHASE PLANS

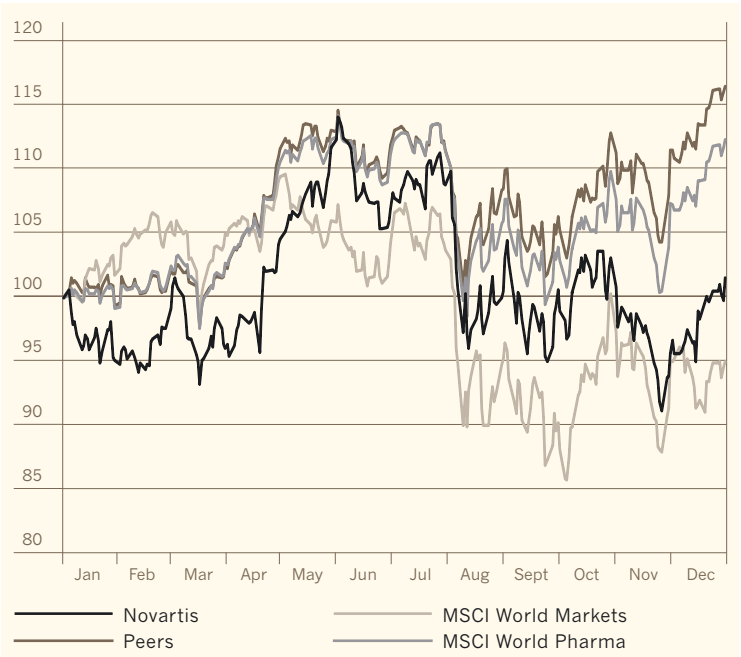
Novartis has been offering US investors since 2001 an ADS Direct Share Purchase Plan that provides investors an easy and inexpensive way of directly purchasing Novartis shares and of reinvesting dividends. This plan holds Novartis ADSs that are listed on the New York Stock Exchange under the trading symbol NVS. At the end of 2011, the ADS Direct Plan had 1 122 participants.

Starting in September 2004, Novartis began offering a Direct Share Purchase Program to investors residing in Switzerland, Liechtenstein, France and the United Kingdom, which was the first of its kind in Europe. This plan offers an easy and inexpensive way for investors to directly purchase Novartis registered shares and for them to be held at no cost in a deposit account with SIX SAG AG. At the end of 2011, a total of 9 403 shareholders were enrolled in this program.

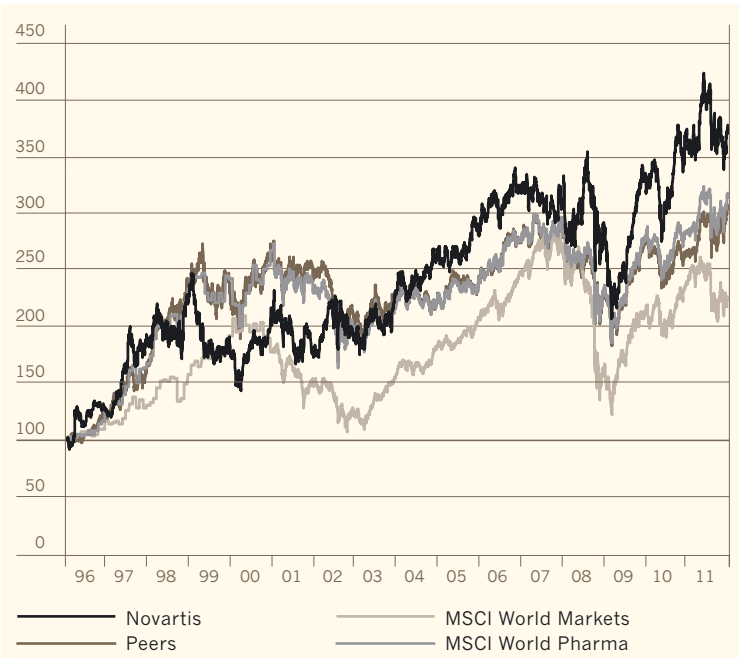
INFORMATION ON NOVARTIS SHARES

Further information can be found on the Internet at http://www.novartis.com/investors.

NOVARTIS 2011 SHARE PRICE MOVEMENT
(in USD)



NOVARTIS 1996–2011 TOTAL SHAREHOLDER RETURN
(in USD)



Source: Datastream. NB data are converted into US Dollars and re-based to 100 at January 1. Currency fluctuations have an influence on the representation of the relative performance of Novartis versus indices and peers

KEY NOVARTIS SHARE DATA

	2011	2010
Issued shares	**2 745 623 000**	**2 637 623 000**
Treasury shares[1]	338 929 143	348 177 822
Outstanding shares at December 31	**2 406 693 857**	**2 289 445 178**
Average number of shares outstanding	**2 382 461 761**	**2 285 668 065**

[1] Approximately 181 million treasury shares (2010: 181 million) are held in entities that limit their availability for use

PER-SHARE INFORMATION[1]

	2011	2010
Basic earnings per share (USD)	3.83	4.28
Diluted earnings per share (USD)	3.78	4.26
Operating cash flow (USD)	6.01	6.15
Year-end equity for Novartis AG shareholders (USD)	27.36	27.60
Dividend (CHF)[2]	2.25	2.20

[1] Calculated on average number of shares outstanding, except year-end equity per share
[2] 2011: Proposal to shareholders for approval at the Annual General Meeting on February 23, 2012.

KEY RATIOS – DECEMBER 31

	2011	2010
Price/earnings ratio[1]	14.9	13.6
Enterprise value/EBITDA	9.1	10.4
Dividend yield (%)[1]	4.2	4.0

[1] Based on Novartis share price at the end of each year

KEY DATA ON AMERICAN DEPOSITARY SHARES (ADS) ISSUED IN THE US

	2011	2010
Year-end ADS price (USD)	57.17	58.95
High[1]	64.52	59.77
Low[1]	51.65	43.78
Number of ADSs outstanding[2]	302 128 359	251 330 166

[1] Based on the daily closing sales prices
[2] The depositary, JPMorgan Chase Bank, holds one Novartis AG share for every American Depositary Share (ADS) issued

SHARE PRICE (CHF)

	2011	2010
Year-end share price	53.70	54.95
High[1]	55.80	60.25
Low[1]	39.99	50.55
Year-end market capitalization (USD billions)[2]	**137.5**	**133.7**
Year-end market capitalization (CHF billions)[2]	**129.2**	**125.8**

[1] Based on the daily closing sales prices
[2] Market capitalization calculated based on number of shares outstanding (excluding treasury shares)

TRADING

Novartis shares are listed in Switzerland and traded on the SIX Swiss Exchange, while American Depositary Shares (ADSs) are listed on the New York Stock Exchange.

SYMBOLS

	SIX Swiss Exchange (Reuters/Bloomberg)	NYSE (Reuters/ Bloomberg)
Shares	NOVN.VX/NOVN VX	
ADSs		NVS

WIDELY DISPERSED SHAREHOLDINGS

Novartis shares are widely held. As of December 31, 2011, Novartis had approximately 165 000 shareholders (2010: 160 000) listed in its share register, representing 75% of issued shares. Based on the Novartis AG share register and excluding treasury shares, approximately 43% (2010: 45%) of the shares registered by name were held in Switzerland and 45% were held in the US (2010: 42%). Approximately 12% of the shares registered in the share register were held by individual investors, while 88% were held by legal entities, nominees and fiduciaries.

CONSOLIDATED INCOME STATEMENTS

(For the years ended December 31, 2011 and 2010)

	Note	2011 USD millions	2010 USD millions
Net sales	3	**58 566**	**50 624**
Other revenues		809	937
Cost of Goods Sold		– 18 983	– 14 488
Gross profit		**40 392**	**37 073**
Marketing & Sales		– 15 079	– 13 316
Research & Development		– 9 583	– 9 070
General & Administration		– 2 970	– 2 481
Other income		1 354	1 234
Other expense		– 3 116	– 1 914
Operating income	3	**10 998**	**11 526**
Income from associated companies	4	528	804
Interest expense	5	– 751	– 692
Other financial income and expense	5	– 2	64
Income before taxes		**10 773**	**11 702**
Taxes	6	– 1 528	– 1 733
Net income		**9 245**	**9 969**
Attributable to:			
Shareholders of Novartis AG		*9 113*	*9 794*
Non-controlling interests		*132*	*175*
Basic earnings per share (USD)	7	3.83	4.28
Diluted earnings per share (USD)	7	3.78	4.26

The accompanying notes form an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(For the years ended December 31, 2011 and 2010)

	Note	2011 USD millions	2010 USD millions
Net income		**9 245**	**9 969**
Fair value adjustments on financial instruments, net of taxes	8.1	21	– 33
Actuarial losses from defined benefit plans, net of taxes	8.2	– 1 421	– 685
Novartis share of other items recorded in comprehensive income recognized by associated companies, net of taxes	8.3	1	– 94
Currency translation effects		– 559	554
Total comprehensive income		**7 287**	**9 711**
Attributable to:			
Shareholders of Novartis AG		*7 171*	*9 524*
Non-controlling interests		*116*	*187*

The accompanying notes form an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(For the years ended December 31, 2011 and 2010)

	Note	Share capital USD millions	Treasury shares USD millions	Share premium USD millions	Retained earnings USD millions	Total value adjustments USD millions	Total reserves USD millions	Non-controlling interests USD millions	Total equity USD millions
Total equity at January 1, 2010		**957**	**– 132**	**198**	**55 096**	**1 268**	**56 562**	**75**	**57 462**
Net income					9 794		9 794	175	9 969
Other comprehensive income	8				– 94	– 176	– 270	12	– 258
Total comprehensive income					**9 700**	**– 176**	**9 524**	**187**	**9 711**
Dividends	9.1				– 4 486		– 4 486		– 4 486
Sale of treasury shares, net	9.2		4		338		338		342
Equity-based compensation	9.3		3		596		596		599
Impact of change of ownership of Alcon, Inc.	9.4				– 74		– 74		– 74
Excess of consideration exchanged for acquiring non-controlling interest compared to the recorded amounts	9.5				– 96		– 96		– 96
Changes in non-controlling interests	9.6							6 311	6 311
Total of other equity movements			**7**		**– 3 722**		**– 3 722**	**6 311**	**2 596**
Total equity at December 31, 2010		**957**	**– 125**	**198**	**61 074**	**1 092**	**62 364**	**6 573**	**69 769**
Net income					9 113		9 113	132	9 245
Other comprehensive income	8				1	– 1 943	– 1 942	– 16	– 1 958
Total comprehensive income					**9 114**	**– 1 943**	**7 171**	**116**	**7 287**
Dividends	9.1				– 5 368		– 5 368		– 5 368
Purchase of treasury shares, net	9.2		– 31		– 3 429		– 3 429		– 3 460
Equity-based compensation	9.3		4		802		802		806
Excess of consideration exchanged for acquiring non-controlling interest compared to the recorded amounts	9.5				– 5 664		– 5 664		– 5 664
Changes in non-controlling interests	9.6							– 6 593	– 6 593
Fair value of Novartis shares used to acquire outstanding non-controlling interests in Alcon, Inc.	9.7	59	31		9 073		9 073		9 163
Total of other equity movements		**59**	**4**		**– 4 586**		**– 4 586**	**– 6 593**	**– 11 116**
Total equity at December 31, 2011		**1 016**	**– 121**	**198**	**65 602**	**– 851**	**64 949**	**96**	**65 940**

The accompanying notes form an integral part of the consolidated financial statements.

CONSOLIDATED BALANCE SHEETS

(At December 31, 2011 and 2010)

	Note	2011 USD millions	2010 USD millions
Assets			
Non-current assets			
Property, plant & equipment	10	15 627	15 840
Goodwill	11	29 943	29 692
Intangible assets other than goodwill	11	31 969	35 231
Investments in associated companies	4	8 622	8 385
Deferred tax assets	12	5 857	5 240
Financial assets	13	976	1 840
Other non-current non-financial assets		418	405
Total non-current assets		**93 412**	**96 633**
Current assets			
Inventories	14	5 930	6 093
Trade receivables	15	10 323	9 873
Marketable securities and derivative financial instruments	16	1 366	2 815
Cash and cash equivalents	16	3 709	5 319
Other current assets	17	2 756	2 585
Total current assets		**24 084**	**26 685**
Total assets		**117 496**	**123 318**
Equity and liabilities			
Equity			
Share capital	18	1 016	957
Treasury shares	18	– 121	– 125
Reserves		64 949	62 364
Issued share capital and reserves attributable to Novartis AG shareholders		**65 844**	**63 196**
Non-controlling interests		96	6 573
Total equity		**65 940**	**69 769**
Liabilities			
Non-current liabilities			
Financial debts	19	13 855	14 360
Deferred tax liabilities	12	6 761	7 689
Provisions and other non-current liabilities	20	7 792	6 842
Total non-current liabilities		**28 408**	**28 891**
Current liabilities			
Trade payables		4 989	4 788
Financial debts and derivative financial instruments	21	6 374	8 627
Current income tax liabilities		1 706	1 710
Provisions and other current liabilities	22	10 079	9 533
Total current liabilities		**23 148**	**24 658**
Total liabilities		**51 556**	**53 549**
Total equity and liabilities		**117 496**	**123 318**

The accompanying notes form an integral part of the consolidated financial statements.

CONSOLIDATED CASH FLOW STATEMENTS
(For the years ended December 31, 2011 and 2010)

	Note	2011 USD millions	2010 USD millions
Net income		**9 245**	**9 969**
Reversal of non-cash items	23.1	9 300	6 162
Dividends from associated companies		403	568
Dividends received from marketable securities		1	3
Interest received		66	170
Interest paid		– 640	– 525
Other financial payments		– 47	– 145
Taxes paid		– 2 435	– 2 616
Cash flows before working capital and provision changes		**15 893**	**13 586**
Restructuring payments and other cash payments from provisions		– 1 471	– 1 281
Change in net current assets and other operating cash flow items	23.2	– 113	1 762
Cash flows from operating activities		**14 309**	**14 067**
Purchase of property, plant & equipment		– 2 167	– 1 678
Proceeds from sales of property, plant & equipment		61	36
Purchase of intangible assets		– 220	– 554
Proceeds from sales of intangible assets		643	545
Purchase of financial assets		– 139	– 124
Proceeds from sales of financial assets		59	66
Purchase of non-current non-financial assets		– 48	– 15
Proceeds from sales of non-current non-financial assets		5	3
Acquisitions of interests in associated companies		– 12	
Acquisitions and divestments of businesses	23.3	– 569	– 26 666
Purchase of marketable securities		– 1 750	– 40 569
Proceeds from sales of marketable securities		3 345	53 200
Cash flows used in investing activities		**– 792**	**– 15 756**
Acquisition of treasury shares		– 3 628	– 311
Disposal of treasury shares		159	711
Increase in non-current financial debts		281	5 674
Repayment of non-current financial debts		– 28	– 5
Change in current financial debts		– 3 054	2 610
Proceeds from issuance of share capital to third parties		4	19
Acquisition of Alcon non-controlling interests		– 3 187	– 32
Dividends paid to non-controlling interests and other financing cash flows		– 203	– 64
Dividends paid to shareholders of Novartis AG		– 5 368	– 4 486
Cash flows used in / from financing activities		**– 15 024**	**4 116**
Net effect of currency translation on cash and cash equivalents		– 103	– 2
Net change in cash and cash equivalents		**– 1 610**	**2 425**
Cash and cash equivalents at January 1		5 319	2 894
Cash and cash equivalents at December 31		**3 709**	**5 319**

The accompanying notes form an integral part of the consolidated financial statements.

1. ACCOUNTING POLICIES

The Novartis Group (Group or Novartis) consolidated financial statements comply with the International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board (IASB). They are prepared in accordance with the historical cost convention except for items that are required to be accounted for at fair value.

The preparation of financial statements requires management to make estimates and other judgments that affect the reported amounts of assets and liabilities as well as the accounting and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual outcomes could differ from those estimates.

SCOPE OF CONSOLIDATION

The consolidated financial statements include all companies that Novartis AG, Basel, Switzerland directly or indirectly controls (generally more than 50% of voting interest). Special purpose entities, irrespective of their legal structure, are consolidated in instances where the Group has the power to govern the financial and operating policies of an entity so as to obtain benefits from their activities.

Investments in associated companies (generally defined as investments in companies in which Novartis holds between 20% and 50% of voting shares or over which it otherwise has significant influence) and joint ventures are accounted for using the equity method. In these situations, the Group records its share of the estimated associated company's net income and equity. The share of results attributed to Novartis from these associated companies is included in the income statement line "Income from associated companies" and is calculated after the deduction of related taxes and non-controlling interests included in the financial results of the associated company.

PRINCIPLES OF CONSOLIDATION

The Group's financial year end is December 31, and the annual closing date of the individual financial statements incorporated into the Group's consolidated financial statements is December 31.

The acquisition method of accounting is used to account for business combinations by the Group in transactions where Novartis takes control of another entity. The cost of an acquisition is measured as the fair value of the transferred assets as well as incurred or assumed liabilities at the date of acquisition. The fair value of any contingent consideration potentially due to former owners of the acquired business is included in the cost of the acquisition. Transaction costs for acquisitions are expensed as incurred. Identifiable acquired assets as well as assumed liabilities and contingent liabilities obtained in a business combination are measured initially at their fair values as of the acquisition date, irrespective of the extent of any non-controlling interest. The excess of the consideration transferred to obtain a controlling interest and the fair value of any previous non-controlling interest in the acquiree, over the fair value of the Group's share of net identifiable assets in a business combination, is recorded as goodwill in the balance sheet and is denominated in the functional currency of the related acquisition. The excess of the cost of acquiring an additional interest in an entity already controlled by the Group over the identifiable net assets related to that non-controlling interest is recorded in consolidated equity. Any difference between the proceeds received from reducing the interest in a controlled entity compared to the share of the related net assets is recorded in consolidated equity. For an acquisition of an entity in stages, any revaluation of an initial non-controlling interest in an entity required as a result of obtaining control is recorded in the consolidated income statement. Novartis has elected to value any remaining outstanding non-controlling interest in a controlled subsidiary only at its proportionate share of the fair value of the net identified assets. Companies acquired or disposed of during the year are included in the consolidated financial statements from the date of acquisition or until the date of disposal.

Intercompany income and expenses, including unrealized profits from internal Novartis transactions and intercompany receivables and payables, are eliminated.

FOREIGN CURRENCIES

The consolidated financial statements of Novartis are presented in US dollars (USD). The functional currency of certain Swiss and foreign finance companies used for preparing the consolidated financial statements is USD instead of the respective local currencies. This reflects the fact that the cash flows and transactions of these entities are primarily denominated in USD. Generally, the respective local currency is used as the functional currency for other entities. In the respective entity financial statements, monetary assets and liabilities denominated in foreign currencies are translated at the prevailing exchange rate at the balance sheet date. Transactions are recorded using the approximate exchange rate at the time of the transaction. All resulting foreign exchange transaction gains and losses are recognized in the entity's income statement.

Income, expense and cash flows of the consolidated entities have been translated into USD using the average of monthly exchange rates during the year. Balance sheets are translated using year-end exchange rates. Translation differences arising from movements in exchange rates used to translate equity and long-term intercompany financing transactions relating to net investments in a foreign entity, retained earnings and other equity components and net income for the year are allocated directly to the cumulative

translation effects included in the fair value adjustments in the consolidated statement of comprehensive income. Translation gains and losses accumulated in the consolidated statement of comprehensive income are included in the income statement when the foreign operation is completely or partially liquidated or is sold.

IMPAIRMENT OF LONG-LIVED INTANGIBLE AND TANGIBLE ASSETS

Novartis reviews long-lived intangible and tangible assets for impairment whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable.

An asset, as defined, is generally considered impaired when its carrying amount exceeds its estimated recoverable amount. The recoverable amount is measured as the higher of: a) an asset or related cash-generating unit's fair value less costs to sell and b) its value in use. Fair value reflects the Group's estimates of assumptions that market participants would use when pricing the asset. In contrast the value in use concept reflects the Group's estimates based on its expected use of the asset, including the effects of factors that may be specific to the Group and not applicable to entities in general. Value in use, and fair value, are measured principally on the basis of discounted cash flow analysis using management's best estimate of the range of economic conditions that are expected to exist over the remaining useful life of the asset. Also value in use measurements specifically exclude consideration of any estimated future net cash flows that might be expected to arise from future restructuring or from improving or enhancing the asset's performance.

The net present values involve highly sensitive estimates and assumptions including consideration of factors such as the following:
– the amount and timing of projected future cash flows;
– the selected discount and tax rate;
– the outcome of Research & Development (R&D) activities (compound efficacy, results of clinical trials, etc.);
– the amount and timing of projected costs to develop In-Process Research & Development (IPR&D) projects into commercially viable products;
– the probability of obtaining regulatory approval;
– long-term sales forecasts for periods of up to 25 years;
– sales erosion rates after the end of patent protection and timing of the entry of generic competition; and
– the behavior of competitors (launch of competing products, marketing initiatives, etc.).

Factors that could result in shortened useful lives or impairments include:
– entry into the market of generic or alternative products;
– lower than expected sales for acquired products or for sales associated with patents and trademarks;
– lower than anticipated future sales resulting from acquired IPR&D;
– the closing of facilities; and
– changes in the planned use of property, plant & equipment.

Goodwill and the Alcon brand name have an indefinite useful life and impairment testing is done at least annually. Any impairment charge is recorded in the consolidated income statement under "Other expense". Novartis considers that the Alcon brand name has an indefinite life as Alcon has a history of strong revenue and cash flow performance, and Novartis has the intent and ability to support the brand with marketplace spending for the foreseeable future. IPR&D is also assessed for impairment at least on an annual basis, with any impairment charge recorded in the consolidated income statement under "Research & Development". Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the consolidated income statement under "Cost of Goods Sold", where related impairment charges, if any, are also recorded.

Novartis has adopted a uniform method for assessing goodwill and indefinite-life intangible assets for impairment and any other intangible asset indicated as being possibly impaired. Generally, for intangible assets Novartis uses cash flow projections for the whole useful life of these assets, and for goodwill and the Alcon brand name, Novartis utilizes cash flow projections for a five-year period based on management forecasts, with a terminal value based on sales projections usually in line with or lower than inflation rates for later periods. Probability-weighted scenarios are typically used.

Discount rates used in these scenarios are based on the Group's weighted average cost of capital as an approximation of the weighted average cost of capital of a comparable market participant, which are adjusted for specific country and currency risks associated with cash flow projections.

Due to the above factors, actual cash flows and values could vary significantly from forecasted future cash flows and related values derived using discounting techniques.

PROPERTY, PLANT & EQUIPMENT

Land is recorded at acquisition cost less accumulated impairment, if any. Prepayments for long-term leasehold land agreements are amortized over the life of the lease.

Other items of property, plant & equipment are recorded at acquisition cost or production cost and are depreciated on a straight-line basis to the consolidated income statement over the following estimated useful lives:

Buildings	20 to 40 years
Other property, plant & equipment:	
– Machinery and equipment	7 to 20 years
– Furniture and vehicles	5 to 10 years
– Computer hardware	3 to 7 years

Additional costs that enhance the future economic benefit of property, plant & equipment are capitalized. Government grants for construction activities and equipment are deducted from the carrying value of the assets. Borrowing costs associated with the construction of new property, plant and equipment projects are capitalized. Property, plant & equipment is reviewed for impairment whenever events

or changes in circumstances indicate that the balance sheet carrying amount may not be recoverable.

Property, plant & equipment that are financed by leases giving Novartis substantially all risks and rewards of ownership are capitalized at the lower of the fair value of the leased asset or the present value of minimum lease payments at the inception of the lease. These are depreciated in the same manner as other assets over the shorter of the lease term or their useful life. Leases in which a significant portion of the ownership risks and rewards are retained by the lessor are classified as operating leases. These are charged to the consolidated income statement over the life of the lease, generally, on a straight-line basis.

INTANGIBLE ASSETS

GOODWILL

The excess of the consideration transferred to obtain a controlling interest and the fair value of any previous non-controlling interest in the acquiree, over the fair value of the Group's share of net identifiable assets in a business combination, is recorded as goodwill in the balance sheet and is denominated in the functional currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit which is defined as the smallest group of assets that generates independent cash inflows that support the goodwill. All goodwill is tested for impairment at least annually. In addition, goodwill is evaluated for impairment at each reporting date for each cash-generating unit with any resulting goodwill impairment charge recorded under "Other Expense" in the consolidated income statement.

Goodwill is tested for possible impairment annually and whenever events or changes in circumstances indicate the value may not be fully recoverable. If the initial accounting for goodwill in the reporting period is only provisional, it is not tested for impairment unless an impairment indicator exists, and not included in the calculation of the net book values at risk from changes in the amount of discounted cash flows. An impairment is recognized when the consolidated balance sheet carrying amount is higher than the greater of "fair value less costs to sell" and "value in use."

OTHER INTANGIBLE ASSETS

All identifiable intangible assets acquired in a business combination are recognized at their fair value. Furthermore, all acquired Research & Development assets, including upfront and milestone payments on licensed or acquired compounds, which are deemed to enhance the intellectual property of Novartis, are capitalized at cost as intangible assets, when it is probable that future economic benefits will arise, even though uncertainties exist as to whether the R&D projects will be ultimately successful in producing a commercial product.

All Novartis intangible assets are allocated to cash-generating units. IPR&D and the Alcon brand name are the only classes of separately identified intangible assets that are not amortized. Both are tested for impairment on an annual basis or when facts and circumstances warrant an impairment test. Any impairment charge is recorded in the consolidated income statement under "Research & Development" for IPR&D and under "Other Expense" for the Alcon brand name. Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the consolidated income statement under "Cost of Goods Sold," where any related impairment charges are also recorded. The Alcon brand name is considered to have an indefinite life as Alcon has a history of strong revenue and cash flow performance, and we have the intent and ability to support the brand with marketplace spending for the foreseeable future.

Internally developed computer software is capitalized and once available for use amortized over its estimated useful life.

All other intangible assets are amortized over their estimated useful lives once they are available for use and tested for impairment whenever facts and circumstances indicate that their carrying value may not be recoverable. The useful lives assigned to acquired intangible assets are based on the period over which they are expected to generate economic benefits, commencing in the year in which they first generate sales or are used in development. Acquired intangible assets are amortized on a straight-line basis over the following periods:

Trademarks	Over their estimated economic or legal life with a maximum of 20 years
Currently marketed products and marketing know-how	5 to 25 years
Technology	10 to 30 years
Software	3 to 5 years
Others	3 to 5 years
Alcon brand name	Indefinite useful life, not amortized

Amortization of trademarks, currently marketed products and marketing know-how is charged in the consolidated income statement to "Cost of Goods Sold" over their useful lives. Technology, which represents identified and separable acquired know-how used in the research, development and production process, is amortized in the consolidated income statement under "Cost of Goods Sold" or "Research & Development." Any impairment charges are recorded in the consolidated income statement in the same functional cost lines as the related amortization charges.

FINANCIAL ASSETS

Investments in debt and equity securities are initially recorded at fair value on the trade date, and subsequently carried at fair value. The fair values of quoted investments are based on current market prices. If the market for a financial asset is not active or no market is available, fair values are established using valuation techniques. These include the use of data from the most recent arm's length relevant transactions, such as new financing rounds or partial disposals; reference to other instruments that are substantially the same; a discounted cash flow analysis; and other pricing models that make maximum use of observable market data. Loans are carried at amortized cost, less any allowances for uncollectable amounts. Exchange rate gains and losses and interest income using the effective interest rate method on loans are recorded in the consolidated income statement. All other changes in the fair value of financial assets are deferred as a fair value adjustment in the consolidated statement of comprehensive income and recognized in the income statement when the asset is sold. Any impairments in value below initial cost are immediately expensed in the consolidated income statement.

ASSOCIATED COMPANIES

Novartis uses the equity method to account for investments in associated companies (generally defined as investments in companies that correspond to holdings of between 20% and 50% of voting shares or over which Novartis otherwise has significant influence).

Novartis considers investments in associated companies for impairment testing whenever there is a quoted share price and when this has a fair value less than the carrying value per share for the investment. For unquoted investments in associated companies recent financial information is taken into account to assess whether impairment testing is necessary. In a situation in which, based on the quoted share price, the fair value less cost to sell is considered to be below the carrying amount, the value in use is determined in order to test the investment for impairment. If the value in use is also below the carrying amount an impairment loss is recognized for the difference between carrying amount and the higher of "value in use" or "fair value less costs to sell". In addition, an impairment test for separately identified assets of the associated company other than its goodwill is performed whenever an indication for impairment exists. Any impairment charge is recorded in the income statement under "Income from associated companies".

DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING

Derivative financial instruments are initially recognized in the balance sheet at fair value, and they are re-measured to their current fair value at the end of each subsequent reporting period.

The method of recognizing the resulting gain or loss is dependent on whether a derivative contract is designed to hedge a specific risk and qualifies for hedge accounting. The purpose of hedge accounting is to match the impact of the hedged item and the hedging instrument in the consolidated income statement. The Group designates derivatives that qualify as hedges for accounting purposes as either a) a hedge of the fair value of a recognized asset or liability (fair value hedge), or b) a hedge of a forecasted transaction or firm commitment (cash flow hedge) or c) a hedge of a net investment in a foreign entity.

Changes in the fair value of derivatives that are fair value hedges and that are highly effective are recognized in the consolidated income statement along with any changes in the fair value of the hedged asset or liability attributable to the hedged risk. Any gain or loss on the hedging instrument relating to the effective portion of changes in the fair value of derivatives in cash flow hedges are recognized in the consolidated statement of comprehensive income. Gains or losses relating to the ineffective portion are recognized immediately in the consolidated income statement. In determining whether the impact of a cash flow hedge can be deferred in the consolidated statement of comprehensive income, management assesses the probability of the forecasted transaction occurring. Amounts are only deferred when management judges the forecasted transaction to be highly probable.

Hedges of net investments in foreign entities are accounted for similarly to cash flow hedges. All foreign exchange gains or losses arising on translation are included in cumulative translation effects and recognized in the consolidated statement of comprehensive income. Gains and losses accumulated in this statement are included in the consolidated income statement when the foreign operation is completely or partially liquidated or is sold.

Certain derivative instruments, while providing effective economic hedges under the Group's policies, do not qualify for hedge accounting. Changes in the fair value of any derivative instruments that do not qualify for cash flow hedge accounting are recognized immediately in "other financial income and expense" in the consolidated income statement.

INVENTORIES

Purchased products are valued at acquisition cost while own-manufactured products are valued at manufacturing cost including related production expenses. In the consolidated balance sheet, inventory is valued at historical cost determined on a first-in first-out basis, and this value is used for the "Cost of Goods Sold" in the consolidated income statement. Provisions are made for inventories with a lower market value or which are slow-moving. If it becomes apparent that such inventory can be reused, provisions are reversed with inventory being revalued up to the lower of its net realizable value or original cost. Inventory produced ahead of regulatory approval is provided for with the provision being released on obtaining approval. Unsalable inventory is fully written off in "Cost of Goods Sold".

TRADE RECEIVABLES

Trade receivables are initially recognized at fair value representing the invoiced amounts, less adjustments for estimated revenue deductions such as rebates, chargebacks and cash discounts. Doubtful trade receivables provisions are established based upon the difference between the recognized value and the estimated net collectible amount with the estimated loss recognized in the consolidated income statement within "Marketing & Sales" expenses. When a trade receivable becomes uncollectible, it is written off against the doubtful trade receivables provisions.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents include highly liquid investments with original maturities of three months or less which are readily convertible to known amounts of cash. Bank overdrafts are presented within other bank and financial debt within "Current financial debts" on the consolidated balance sheet.

MARKETABLE SECURITIES

Marketable securities consist of equity and debt securities which are principally traded in liquid markets. The Group has classified all its marketable securities as available-for-sale, as they are not acquired to generate profit from short-term fluctuations in price. All purchases and sales of marketable securities are recognized on the trade date, which is the date that the Group commits to purchase or sell the asset. Marketable securities are initially recorded at their acquired fair value and subsequently carried at fair value. Exchange rate gains and losses and interest income using the effective interest rate method on debt securities are recorded in the consolidated income statement. All other changes in the fair value of unhedged securities are deferred as a fair value adjustment in the consolidated statement of comprehensive income and recognized in the consolidated income statement when the asset is sold or impaired. Where hedge accounting is applied, the change in fair value of effectively hedged securities is recorded in the consolidated income statement where it offsets the gains or losses of the hedging derivative.

Unrealized losses on impaired marketable securities are included as a reduction of financial income in the consolidated income statement. A security is assessed for impairment when its market value at the balance sheet date is less than initial cost reduced by any previously recognized impairment.

REPURCHASE AGREEMENTS

Underlying securities related to repurchase agreements are included within marketable securities. Repurchase financing agreements for securities sold but agreed to be repurchased are recognized gross and included in short-term financial debts. Income and expenses are recorded net in interest income within financial income.

TAXES

Taxes on income are provided in the same periods as the revenues and expenses to which they relate. Deferred taxes are determined using the comprehensive liability method and are calculated on the temporary differences that arise between the tax base of an asset or liability and its carrying value in the subsidiary's balance sheet prepared for consolidation purposes, except for those temporary differences related to investments in subsidiaries and associated companies, where the timing of their reversal can be controlled and it is probable that the difference will not reverse in the foreseeable future. Furthermore, withholding or other taxes on eventual distribution of subsidiaries' retained earnings are only taken into account where a dividend has been planned since generally the retained earnings are reinvested. Deferred tax assets or liabilities, measured at the tax rates that are expected to apply in the period of tax settlement or realization by the applicable entity, are included in the consolidated balance sheet as either a non-current asset or liability, with changes in the year recorded in the consolidated income statement in "Taxes" or in the consolidated statement of comprehensive income, if they relate to an item directly recorded in this statement. Deferred tax assets related to tax losses of relevant Group entities are recognized to the extent it is considered probable that future taxable profits will be available against which such losses can be utilized in the foreseeable future.

The estimated amounts for current and deferred tax assets or liabilities, including any amounts related to any uncertain tax positions, are based on currently known facts and circumstances. Tax returns are based on an interpretation of tax laws and regulations and record estimates based on these judgments and interpretations. The tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. Inherent uncertainties exist in the estimates of the tax positions.

DEFINED BENEFIT PENSION PLANS, OTHER POST-EMPLOYMENT BENEFITS AND OTHER NON-CURRENT BENEFITS OF ASSOCIATES

DEFINED BENEFIT PENSION PLANS

The liability in respect of defined benefit pension plans is the defined benefit obligation calculated annually by independent actuaries using the projected unit credit method. The defined benefit obligation is measured as the present value of the estimated future payments required to settle the obligation that is attributable to the service of associates in the current and prior periods. The service cost for such pension plans is included in the personnel expenses of the various functions where the associates are employed, while the expected return on assets and interest expense are recognized as "Other income" or "Other expense". Plan assets are recorded at their fair value. Unvested past service costs arising from amendments to pension plans are charged or credited on a straight-line basis to income over the associates' remaining vesting period. Vested past service costs, including such costs for retired associates are immediately recognized in the consolidated income statement. Gains or losses arising from plan curtailments or settlements are accounted for at the time they occur. Any net pension asset is limited to the present value of future economic benefits available to the Group in the form of refunds from the plan or expected reductions in future contributions to the plan.

The effects of changes in actuarial assumptions and experience adjustments on the value of plan assets and liabilities of defined benefit plans are immediately recognized in the consolidated balance sheet with a corresponding movement in the consolidated statement of comprehensive income.

OTHER POST-EMPLOYMENT BENEFITS

Certain subsidiaries provide healthcare and insurance benefits for a portion of their retired associates and their eligible dependents. The cost of these benefits is actuarially determined and accrued over the service lives of the related associates. Service costs are included in the personnel expenses of the various functions where the associates are located, while the expected return on assets and interest expense are recognized as "Other income" or "Other expense". The related obligation is recognized in non-current liabilities.

OTHER NON-CURRENT BENEFITS OF ASSOCIATES

Other non-current benefits of associates represent amounts due to associates under deferred compensation arrangements available in certain jurisdictions in which the Group conducts its operations. Benefit costs are recognized on an accrual basis in the personnel expenses of the various functions where the associates are located. The related obligation is recognized in other non-current liabilities.

EQUITY-BASED COMPENSATION

The fair value of Novartis shares, restricted shares, restricted share units (RSU) and American Depositary Shares (ADS) and related options granted to associates as compensation is recognized as an expense over the related vesting or service period adjusted to reflect actual and expected vesting levels. The charge for equity-based compensation is included in the personnel expenses which are allocated to functional costs and credited to equity for equity-settled amounts or to other current liabilities for cash-settled amounts. An option's fair value at grant date is calculated using the trinomial valuation method. Accurately measuring the value of share options is difficult and requires an estimate of factors used in the valuation model. These key factors involve uncertain future events, such as expected dividend yield and expected share price volatility. Expected volatilities are based on those implied from listed warrants on Novartis shares, and – to the extent that equivalent options are not available – a future extrapolation based on historical volatility. Novartis shares, restricted shares, RSUs and ADSs are valued using the market value on the grant date.

REVENUE RECOGNITION

Revenue is recognized when there is persuasive evidence that a sales arrangement exists, title and risks and rewards for the products are transferred to the customer, the price is determinable and collectability is reasonably assured. Where contracts contain customer acceptance provisions, sales are recognized upon the satisfaction of acceptance criteria. Revenue is recognized for products that are stockpiled at the request of the customer once the products have been inspected and accepted by the customer and there is no right of return or replenishment on product expiry, and cost of storage will be paid by the customer on normal commercial terms. Provisions for rebates and discounts granted to government agencies, wholesalers, retail pharmacies, managed care and other customers are recorded as a reduction of revenue at the time the related revenues are recorded or when the incentives are offered. They are calculated on the basis of historical experience and the specific terms in the individual agreements. Provisions for refunds granted to healthcare providers under innovative pay for performance agreements are recorded as a reduction of revenue at the time the related revenues are recorded. They are calculated on the basis of historical experience and clinical data for the product as well as the specific terms in the individual agreements. In cases where historical experience and clinical data are not sufficient for a reliable estimation of the outcome, revenue recognition is deferred until such history is available.

Cash discounts are offered to customers to encourage prompt payment and are recorded as revenue deductions. Wholesaler shelf-inventory adjustments are granted to customers based on the existing inventory of a product at the time of decreases in the invoice or contract price of a product or at the point of sale if a price decline is reasonably estimable. Where there is an historical experience of Novartis agreeing to customer returns or Novartis can

otherwise reasonably estimate expected future returns, Novartis records a provision for estimated sales returns. In doing so it applies the estimated rate of return, determined based on historical experience of customer returns or considering any other relevant factors, to the amounts invoiced also considering the amount of returned products to be destroyed versus products that can be placed back in inventory for resale. Where shipments are made on a re-sale or return basis, without sufficient historical experience for estimating sales returns, revenue is only recorded when there is evidence of consumption or when the right of return has expired. Provisions for revenue deductions are adjusted to actual amounts as rebates, discounts and returns are processed.

RESEARCH & DEVELOPMENT

Internal Research & Development (R&D) costs are fully charged to the consolidated income statement in the period in which they are incurred. The Group considers that regulatory and other uncertainties inherent in the development of new products preclude the capitalization of internal development expenses as an intangible asset until marketing approval from a regulatory authority is obtained in a major market such as for the US, the EU, Switzerland or Japan.

Payments made to third parties in compensation for subcontracted R&D that is deemed not to enhance the intellectual property of Novartis such as contract research and development organizations are expensed as internal R&D expenses in the period in which they are incurred. Such payments are only capitalized if they meet the criteria for recognition of an internally generated intangible asset, usually when marketing approval has been achieved from a regulatory authority in a major market.

Payments made to third parties in order to in-license or acquire intellectual property rights, compounds and products (In-Process Research & Development assets, "IPR&D"), including initial upfront and subsequent milestone payments, are capitalized as are payments for other assets, such as technologies to be used in R&D activities. If additional payments are made to the originator company to continue to perform R&D activities, an evaluation is made as to the nature of the payments. Such additional payments will be expensed if such additional payments are deemed to be compensation for subcontracted R&D services not resulting in an additional transfer of intellectual property rights to Novartis. By contrast, such additional payments will be capitalized if these additional payments are deemed to be compensation for the transfer to Novartis of additional intellectual property developed at the risk of the originator company. Subsequent internal R&D costs in relation to IPR&D and other assets are expensed since the technical feasibility of the internal R&D activity can only be demonstrated by the receipt of marketing approval for a related product from a regulatory authority in a major market.

Costs for post-approval studies performed to support the continued registration of a marketed product are recognized as marketing expenses. Costs for activities that are required by regulatory authorities as a condition for obtaining marketing approval are charged as development expenses as they are incurred in cases where it is anticipated that the related product will be sold over a longer period than the activities required to be performed to obtain the marketing approval. In the rare cases where costs related to the conditional approval need to be incurred over a period beyond that of the anticipated product sales, then the expected costs of these activities will be expensed over the shorter period of the anticipated product sales. As a result, all activities necessary as a condition to maintain a received approval, whether conditional or not, are expensed in the consolidated income statement.

IPR&D assets are amortized in the consolidated income statement over their useful life once the related project has been successfully developed and regulatory approval for a product launch has been obtained. Other acquired technologies included in intangible assets are amortized in the consolidated income statement over their estimated useful lives.

Laboratory buildings and equipment included in property, plant & equipment are depreciated in the consolidated income statement over their estimated useful lives.

GOVERNMENT GRANTS

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants are deferred and recognized in the consolidated income statement over the period necessary to match them with the related costs which they are intended to compensate.

Government grants relating to property, plant and equipment are deducted from the carrying value of assets and released to the consolidated income statement on a straight-line basis over the expected lives of the related assets.

Government grants related to income are deducted in reporting the related expense.

PROVISIONS

Novartis records provisions when it is judged probable that a liability has been incurred and the amount can be reliably estimated. These provisions are adjusted periodically as assessments change or additional information becomes available.

Cost of future expenditures do not usually reflect any insurance or other claims or recoveries, as Novartis only recognizes insurance or other recoveries at such time the amount is reliably estimable and collection is virtually certain.

PRODUCT LIABILITIES

Provisions are made for present product liability obligations resulting from past sales including related legal and other fees and expenses. The provision is actuarially determined taking into consideration such factors as past experience, amount and number of claims reported and estimates of claims incurred but not yet reported. Individually significant cases are provided for when probable and reliably estimable.

LEGAL LIABILITIES

Provisions are made for anticipated settlement costs where a reliable estimate can be made of the probable outcome of legal or other disputes against the Group. In addition, provisions are made for legal and other fees and expenses arising from claims affecting Novartis.

ENVIRONMENTAL LIABILITIES

Novartis is exposed to environmental liabilities relating to its past operations, principally in respect to remediation costs. Provisions for remediation costs are made when expenditure on remedial work is probable and the cost can be reliably estimated. These remediation costs are calculated as the present value of expected cash outflows including anticipated inflation, discounted at a rate based on the market yields for high quality corporate bonds. The increase in provisions due to the passage of time and the effect of changes in the discount rates are included in Interest Expense.

CONTINGENT CONSIDERATION IN A BUSINESS COMBINATION

Contingent consideration potentially due to former owners as part of the consideration paid for a business combination is recognized as a liability at fair value as of the acquisition date. Any subsequent change in the fair value of the contingent consideration liability is recognized in the consolidated income statement.

RESTRUCTURING CHARGES

Restructuring charges are accrued against operating income in the period in which management has committed to a plan and has raised the valid expectation of the plan's implementation by those affected and the amount can be reliably estimated. The Group recognizes the costs for terminating the employment contracts of associates when it is demonstrably committed to either terminating employment according to a detailed formal plan without possibility of withdrawal or when it is committed to providing termination benefits as a result of an offer made to encourage voluntary redundancy.

Charges to increase restructuring provisions are included in "Other expense" in the consolidated income statement. Corresponding releases are recorded in "Other income".

DIVIDENDS

Dividends are recorded in the Group's consolidated financial statements in the period in which they are approved by the Group's shareholders.

TREASURY SHARES

Treasury shares are deducted from consolidated equity at their nominal value of CHF 0.50 per share. Differences between this amount and the amount paid for acquiring, or received for disposing of, treasury shares are recorded in consolidated retained earnings.

REPORTING SEGMENTS

Reporting segments are presented in a manner consistent with the internal reporting to the chief operating decision maker. The chief operating decision maker, who is responsible for allocating resources and assessing the performance of the reporting segments, has been identified as being the Executive Committee.

STATUS OF ADOPTION OF SIGNIFICANT NEW OR AMENDED IFRS STANDARDS OR INTERPRETATIONS

The following new or amended IFRS standards will, based on a Novartis analysis, be of significance to the Group, but have not yet been adopted.

In 2009, 2010 and 2011, IFRS 9 *Financial Instruments* was issued which will substantially change the classification and measurement of financial instruments, hedging requirements and the recognition of certain fair value changes in the consolidated financial statements. Currently, only new requirements on the classification and measurement for financial assets and financial liabilities have been issued. The mandatory effective date for requirements issued as part of IFRS 9 will be on or after January 1, 2015. Early application of the requirements is permitted.

In 2011, IAS 19 revised on *Employee Benefits* was issued, for adoption by January 1, 2013. The principal impact for Novartis will be that the concepts of expected return on plan assets and interest expense on the defined benefit obligation as separate components of defined benefit cost will be replaced by a concept that interest will be calculated on the net of the defined benefit obligation and funded post-employment obligation assets generally using an interest rate reflecting market yields of high quality corporate bonds in deep markets. If this concept had been adopted by Novartis in 2011, it is estimated that operating income would have been lower by approximately USD 260 million. Novartis will retrospectively adopt the standard on January 1, 2013.

Two other new standards were also issued in 2011, IFRS 10 *Consolidated Financial Statements* and IFRS 11 *Joint Arrangements* which are potentially important for Novartis. Under IFRS 10, Novartis will need to consolidate an investee based on control, i.e. when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. IFRS 11 will require that Novartis classifies joint arrangements as either joint operations,

where assets, liabilities, revenues and expenses are accounted for proportionally in accordance with the agreement, or as joint ventures, which are accounted for under the equity method. These new standards become effective on January 1, 2013.

The following IFRSs and amendments are not yet effective and are not early adopted by the Group:

– IFRS 12, *Disclosures of interests in other entities*, effective for annual periods beginning on or after January 1, 2013
– IFRS 13, *Fair value measurement*, effective for annual periods beginning on or after January 1, 2013
– Amendment to IAS 1, *Presentation of items of other comprehensive income*, effective for annual periods beginning on or after July 1, 2012

Although Novartis is still completing its evaluation of these new standards, apart from where indicated, Novartis does not currently consider that the other new standards will have a significant impact.

2. SIGNIFICANT TRANSACTIONS, BUSINESS COMBINATIONS AND DIVESTMENTS

The following acquisitions, business combinations or other significant transactions occurred during 2011 and 2010. See notes 3 and 24 for further details of the impact of these transactions on the consolidated financial statements.

ALCON MAJORITY CONTROL IN 2010; FULL OWNERSHIP AND MERGER IN 2011

On August 25, 2010 Novartis completed the acquisition of a further 52% interest in Alcon, Inc. (Alcon) following on from the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately USD 28.3 billion or USD 180 per share. The overall purchase price of USD 38.7 billion included certain adjustments for Alcon dividends and interest due. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for USD 10.4 billion or USD 143 per share in July 2008.

On December 14, 2010 Novartis entered into a definitive agreement to merge Alcon into Novartis in consideration for Novartis shares and a Contingent Value Amount. The acquisition of the remaining outstanding non-controlling interests in Alcon were separate transactions following the previous acquisition of majority ownership in Alcon by Novartis in 2010.

On April 8, 2011 a Novartis Extraordinary General Meeting approved the merger with Alcon, Inc. leading to the creation of the Alcon Division which became the fifth reported segment in Novartis' strategically diversified healthcare portfolio. The Extraordinary General Meeting also authorized the issuance of 108 million new shares. Alcon shareholders received 2.9228 Novartis shares (which included a dividend adjustment) and USD 8.20 in cash for each share of Alcon, resulting in a total consideration of USD 168.00 per share.

For business combinations achieved in stages, IFRS requires that any previously held interest of an acquirer in an acquiree is adjusted to its fair value through the consolidated income statement as of the acquisition date. The agreement that Novartis entered into with Nestlé in 2008 specified an average price of up to USD 168 per share for all of the approximately 77% interest in Alcon held by Nestlé, including USD 143 per share for the initial 25% interest acquired by Novartis in 2008, and a maximum of USD 181 per share for the remaining 52%, including a premium for the change of majority ownership.

Novartis reassessed the fair value of the initial 25% non-controlling interest in Alcon it acquired from Nestlé in 2008. In 2010, Novartis recognized a revaluation gain of USD 378 million on its initial 25% equity-method investment in Alcon upon acquiring a 52% controlling interest in the second-stage purchase from Nestlé on August 25, 2010. This gain was based on Novartis concluding that the fair value of that interest had a corresponding per-share value of USD 139. On this date the quoted marked price of Alcon on the NYSE was USD 160. Novartis measured this revaluation gain based on the estimated current fair value of its investment in Alcon, with the assistance of outside specialist investment bank advisors. This valuation demonstrated that, as at August 25, 2010, the quoted price for Alcon was affected by an anticipated premium on Novartis' eventual purchase of the 23% not owned at that time. Novartis concluded that this "premium" should not be included in the valuation of the previously held equity interest.

This gain was reduced by USD 43 million of accumulated losses recorded in the consolidated statement of comprehensive income of Novartis since the July 2008 acquisition date of the initial interest. These accumulated losses were recorded under the equity accounting method, which requires such accumulated losses to be recycled into the consolidated income statement at the time of

acquiring majority ownership. The net amount of USD 335 million was recorded as a gain under "Income from Associated Companies".

At December 31, 2010 Novartis recorded the outstanding non-controlling interests in Alcon at their proportionate share of identifiable net assets which amounted to USD 6.3 billion. After the acquisition of majority ownership in Alcon, Inc. on August 25, 2010, Alcon contributed in 2010 net sales of USD 2.4 billion and operating income of USD 323 million to the 2010 consolidated income statement.

During 2011, prior to the merger of Alcon, Inc. into Novartis AG on April 8, 4.8% of the non-controlling interests in Alcon, Inc. were acquired for USD 2.4 billion. Completion of the acquisition of the outstanding 18.6% on April 8, 2011 and subsequent merger, resulted in the issuance of Novartis shares with a fair value of USD 9.2 billion and a contingent value payment of USD 0.5 billion.

The final purchase price allocation was completed in 2011 and resulted in a fair value of net identifiable assets of USD 27.0 billion and goodwill of USD 18.0 billion. The excess of the value exchanged for the non-controlling interests in 2011 over the recorded value of the non-controlling interest together with merger related transaction costs resulted in a reduction in equity of USD 5.7 billion.

Pharmaceuticals – Acquisition of Genoptix, Inc.

On March 7, 2011 Novartis completed the acquisition of Genoptix, Inc., a specialized laboratory providing personalized diagnostic services to community-based hematologists and oncologists. Genoptix employed approximately 500 people and became part of the Novartis Molecular Diagnostics unit within the Pharmaceuticals Division.

The acquisition in cash of 100% of the shares of Genoptix totaled USD 458 million, excluding the USD 24 million of cash acquired. The final purchase price allocation resulted in net identified assets of USD 237 million and goodwill of USD 221 million. Results of operations since the acquisition date were not material.

Vaccines and Diagnostics – Acquisition of Zhejiang Tianyuan

On March 22, 2011 Novartis completed the acquisition in cash of an 85% stake in the Chinese vaccines company, Zhejiang Tianyuan Bio-Pharmaceutical Co. Ltd. The acquisition provides Novartis with an expanded presence in the Chinese vaccines market and is expected to facilitate the introduction of additional Novartis vaccines into China. The total amount paid for the 85% interest was USD 194 million, excluding USD 39 million of cash acquired. The final purchase price allocation resulted in net identified assets of USD 131 million and goodwill of USD 82 million. Non-controlling interests have increased by USD 19 million from this transaction. Results of operations since the acquisition date were not material.

Pharmaceuticals – Divestment of *Elidel*®

On May 11, 2011 Novartis completed the divestment of *Elidel*® Cream 1% to Meda Pharma Sarl and Novartis received an upfront payment of USD 420 million and recognized a gain of USD 324 million in "Other Income".

OTHER SIGNIFICANT TRANSACTIONS IN 2010

Pharmaceuticals – Acquisition of Corthera

On February 3, 2010 Novartis completed the 100% acquisition (announced on December 23, 2009) of the privately held US-based Corthera Inc., gaining worldwide rights to relaxin for the treatment of acute decompensated heart failure and assumed full responsibility for development and commercialization for a total purchase consideration of USD 327 million. This amount consists of an initial cash payment of USD 120 million and USD 207 million of deferred contingent consideration. The deferred contingent consideration is the net present value of the additional milestone payments due to Corthera's previous shareholders which they are eligible to receive contingent upon the achievement of specified development and commercialization milestones. The final purchase price allocation resulted in net identified assets of USD 309 million and goodwill of USD 18 million. Results of operations since the acquisition date were not material.

Corporate – Issuance of bond in US dollars

On March 9, 2010 Novartis issued a three-tranche bond totaling USD 5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 1.9% three-year tranche totaling USD 2.0 billion, a 2.9% five-year tranche totaling USD 2.0 billion and a 4.4% 10-year tranche totaling USD 1.0 billion were issued by the Group's US entity, Novartis Capital Corp. All tranches are unconditionally guaranteed by Novartis AG.

Corporate – Change of pension plan in Switzerland

On April 23, 2010 the Board of Trustees of the Novartis Swiss Pension Fund agreed to amend the conditions and insured benefits of the current Swiss pension plan with effect from January 1, 2011. These amendments do not have an impact on existing pensions in payment or on plan members born before January 1, 1956. Under the previous rules, benefits from the plan are primarily linked to the level of salary in the years prior to retirement while under the new rules benefits are also partially linked to the level of contributions made by the members during their active service period up to their retirement. This has led to changes in the amounts that need to be included in the Group's consolidated financial statements prepared using IFRS in respect of the Swiss Pension Fund.

As part of this change, Novartis, supported by the Swiss Pension Fund, will make transitional payments, which vary according to the member's age and years of service. As a result, it is estimated that additional payments will be made over a ten-year period of up to approximately USD 481 million (CHF 453 million) depending on whether or not all current members affected by the change remain in the plan over this ten-year period.

2. SIGNIFICANT TRANSACTIONS, BUSINESS COMBINATIONS AND DIVESTMENTS (CONTINUED)

The accounting consequence of this change in the Swiss pension plan rules results in the Group's consolidated financial statements prepared under IFRS reflecting a net pre-tax curtailment gain of USD 265 million (CHF 283 million) in 2010. This calculation only takes into account the discounted value of transition payments of USD 202 million (CHF 219 million) attributed to already completed years of service of the affected plan members as calculated in accordance with IFRS requirements. It does not take into account any amount for transitional payments related to their future years of service.

Sandoz – Acquisition of Oriel Therapeutics

On June 1, 2010 Sandoz completed the 100% acquisition of the privately held US-based Oriel Therapeutics Inc., to broaden its portfolio of projects in the field of respiratory drugs for a total purchase consideration of USD 332 million. This amount consists of an initial cash payment of USD 74 million and USD 258 million of deferred contingent consideration. Oriel's previous shareholders are eligible to receive milestone payments, which are contingent upon the company achieving future development steps, regulatory approvals and market launches, and sales royalties. The total USD 258 million of deferred contingent consideration represents the net present value of expected milestone and royalty payments. The final purchase price allocation, including the valuation of the contingent payment elements of the purchase price, resulted in net identified assets of USD 281 million and goodwill of USD 51 million. Results of operations since the acquisition date were not material. During 2011, USD 106 million of contingent consideration has been released to the consolidated income statement as it is remote that the related contingent event will occur.

Pharmaceuticals – Divestment of *Enablex*®

On October 18, 2010 Novartis finalized the sale of the US rights for *Enablex*® (darifenacin) to Warner Chilcott Plc for USD 400 million and recognized a gain of USD 392 million.

3. SEGMENTATION OF KEY FIGURES 2011 AND 2010

REPORTING SEGMENTS

The businesses of Novartis are divided operationally on a worldwide basis into five reporting segments: Pharmaceuticals, Alcon, Sandoz, Vaccines and Diagnostics and Consumer Health and Corporate activities. Following the full acquisition of Alcon, Inc., on April 8, 2011 a new divisional segment allocation was introduced. As a result, the Alcon Division includes CIBA Vision and certain Pharmaceuticals Division ophthalmology products. Falcon, the US generics business of Alcon, Inc. was transferred to the Sandoz Division. Certain residual operational costs incurred for the Consumer Health Division headquarters were transferred to Corporate and Corporate R&D was transferred to the Pharmaceuticals Division. All segment results for 2010 and 2011 use this new allocation. Except for Consumer Health, these segments reflect the Group's internal management structures. These segments are managed separately, including the two divisions of the Consumer Health segment, because they manufacture, distribute, and sell distinct products which require differing marketing strategies. In the case of Consumer Health, the segment comprises two divisions which are also managed separately, however, neither of these two divisions is material enough to the Group to be disclosed separately as a segment. The reported segments are as follows:

Pharmaceuticals researches, develops, manufactures, distributes and sells patented prescription medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Integrated Hospital Care; and additional products. Pharmaceuticals is organized into global business franchises responsible for the development and marketing of various products, as well as a business unit, called Novartis Oncology, responsible for the global development and marketing of oncology products. The Novartis Oncology Business Unit is not required to be disclosed separately as a segment since it shares common long-term economic perspectives, customers, research, development, production, distribution and regulatory factors with the rest of the division.

Alcon discovers, develops, manufactures, distributes and sells eye care products. Alcon is the global leader in eye care with product offerings in Surgical, Ophthalmic Pharmaceuticals and Vision Care. In Surgical, Alcon develops, manufactures, distributes and sells ophthalmic surgical equipment, instruments, disposable products and intraocular lenses. In Ophthalmic Pharmaceuticals, Alcon discovers, develops, manufactures, distributes and sells medicines to treat chronic and acute diseases of the eye, as well as over-the-counter medicines for the eye. In Vision Care, Alcon develops, manufactures, distributes and sells contact lenses and lens care products.

Sandoz develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. Sandoz has activities in Retail Generics, Anti-Infectives, Biopharmaceuticals & Oncology Injectables. In Retail Generics, Sandoz develops, manufactures, distributes and markets active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops and manufactures, distributes and sells active pharmaceutical ingredients and intermediates – mainly antibiotics – for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops, manufactures, distributes and markets protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufacturers, and markets cytotoxic products for the hospital market.

Vaccines and Diagnostics consists of two activities: Vaccines and Diagnostics. Vaccines researches, develops, manufactures, distributes and sells human vaccines worldwide. Diagnostics researches, develops, distributes and sells blood testing and molecular diagnostics products.

Consumer Health now consists of two divisions: OTC (over-the-counter medicines) and Animal Health. OTC offers readily available consumer medicine. Animal Health provides veterinary products for farm and companion animals.

The following shows an overview of the impact of the restatement on the segmentation structure. Unless otherwise stated this has been used for all years presented in this Annual Report.

Segment	Newly included	Newly excluded
Pharmaceuticals	Corporate R&D	Certain ophthalmic products
Alcon	CIBA Vision, certain ophthalmic products	Falcon
Sandoz	Falcon	
Consumer Health		CIBA Vision; disbanded Consumer Health divisional management costs
Corporate	Disbanded Consumer Health divisional management costs	Corporate R&D

A summary of the above restatements on 2010 net sales and operating income is as follows:

Segment (USD m)	Net sales	Operating income
Pharmaceuticals	– 252	– 327
Alcon	2 020	473
Sandoz	74	49
Consumer Health	– 1 842	– 375
Corporate		180
Total	**0**	**0**

Inter-segmental sales are made at amounts which are considered to approximate arm's length transactions. Where practicable, the same accounting policies are applied by the Group and the segments. Currently, the Executive Committee principally evaluates segmental performance and allocates resources among the segments based on their operating income, cash flow and cash flow return on invested capital (CFROI).

Segment net operating assets consist primarily of property, plant & equipment, intangible assets, inventories and trade and other operating receivables less operating liabilities.

CORPORATE

Income and expenses relating to Corporate include the costs of the Group headquarters and those of corporate coordination functions in major countries. In addition, Corporate includes other items of income and expense which are not attributable to specific segments such as certain expenses related to post-employment benefits, environmental liabilities, charitable activities, donations and sponsorships. Usually, no allocation of Corporate items is made to the segments. Corporate assets and liabilities principally consist of net liquidity (cash and cash equivalents, marketable securities less financial debts), investments in associated companies and current and deferred taxes and non-segmental specific environmental and post-employment benefit liabilities.

3. SEGMENTATION[1] OF KEY FIGURES 2011 AND 2010 (CONTINUED)

	Pharmaceuticals		Alcon	
(In USD millions)	**2011**	**2010**	**2011**	**2010[2]**
Net sales to third parties	**32 508**	**30 306**	**9 958**	**4 446**
Sales to other segments	244	157	22	14
Net sales of segments	**32 752**	**30 463**	**9 980**	**4 460**
Other revenues	453	422	43	34
Cost of Goods Sold	– 6 573	– 5 272	– 4 566	– 1 760
Gross profit	**26 632**	**25 613**	**5 457**	**2 734**
Marketing & Sales	– 8 929	– 8 663	– 2 537	– 1 299
Research & Development	– 7 232	– 7 276	– 892	– 352
General & Administration	– 1 047	– 919	– 509	– 255
Other income	697	687	262	7
Other expense	– 1 825	– 971	– 309	– 39
Operating income	**8 296**	**8 471**	**1 472**	**796**
Income from associated companies	– 3	– 16		
Interest expense				
Other financial income and expense				
Income before taxes				
Taxes				
Group net income				
Attributable to:				
Shareholders of Novartis AG				
Non-controlling interests				
Included in net income are:				
Interest income				
Depreciation of property, plant & equipment	– 870	– 726	– 306	– 127
Amortization of intangible assets	– 423	– 457	– 1 928	– 65
Impairment charges on property, plant & equipment	– 403	4	– 5	
Impairment charges on intangible assets	– 552	– 894	– 20	
Impairment charges on financial assets	– 30	– 41	– 4	
Additions to restructuring provisions	– 265	– 133	– 74	
Equity-based compensation of Novartis and Alcon equity plans	– 648	– 559	– 113	– 30
Total assets	**24 111**	**24 681**	**46 065**	**47 775**
Total liabilities	– 10 415	– 9 469	– 2 273	– 1 522
Total equity	**13 696**	**15 212**	**43 792**	**46 253**
Net debt				
Net operating assets	**13 696**	**15 212**	**43 792**	**46 253**
Included in total assets and total liabilities are:				
Total property, plant & equipment	8 071	8 360	2 056	2 060
Additions to property, plant & equipment[3]	1 041	777	354	193
Total goodwill and intangible assets	6 244	6 696	40 542	42 410
Additions to goodwill and intangible assets[3]	219	414	80	20
Total investment in associated companies	3	2	18	17
Additions to investment in associated companies	5		3	
Cash, marketable securities and derivative financial instruments				
Financial debts and derivative financial instruments				
Current income tax and deferred tax liabilities				

[1] All 2010 segment information has been restated to reflect new segment allocation introduced during 2011 as explained in detail on page 159
[2] Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010.
[3] Excluding impact of business combinations

Sandoz		Vaccines and Diagnostics		Consumer Health		Corporate (including eliminations)		Total Group	
2011	**2010**	**2011**	**2010**	**2011**	**2010**	**2011**	**2010**	**2011**	**2010**
9 473	**8 592**	**1 996**	**2 918**	**4 631**	**4 362**			**58 566**	**50 624**
319	267	73	60	15	35	– 673	– 533		
9 792	**8 859**	**2 069**	**2 978**	**4 646**	**4 397**	**– 673**	**– 533**	**58 566**	**50 624**
9	16	295	433	24	34	– 15	– 2	809	937
– 5 445	– 4 878	– 1 410	– 1 551	– 1 735	– 1 560	746	533	– 18 983	– 14 488
4 356	**3 997**	**954**	**1 860**	**2 935**	**2 871**	**58**	**– 2**	**40 392**	**37 073**
– 1 591	– 1 450	– 363	– 338	– 1 674	– 1 569	15	3	– 15 079	– 13 316
– 640	– 658	– 523	– 523	– 296	– 261			– 9 583	– 9 070
– 369	– 350	– 150	– 149	– 291	– 269	– 604	– 539	– 2 970	– 2 481
88	77	18	35	91	38	198	390	1 354	1 234
– 422	– 295	– 185	– 273	– 38	– 32	– 337	– 304	– 3 116	– 1 914
1 422	**1 321**	**– 249**	**612**	**727**	**778**	**– 670**	**– 452**	**10 998**	**11 526**
4	3	2	7			525	810	528	804
								– 751	– 692
								– 2	64
								10 773	**11 702**
								– 1 528	– 1 733
								9 245	**9 969**
								9 113	*9 794*
								132	*175*
								62	103
– 303	– 285	– 115	– 100	– 50	– 46	– 84	– 79	– 1 728	– 1 363
– 383	– 293	– 231	– 259	– 59	– 61	– 4		– 3 028	– 1 135
– 1		– 2	– 14	– 2				– 413	– 10
– 25	– 11	– 8		– 14	– 6			– 619	– 911
		– 135	– 98			– 23	– 19	– 192	– 158
	– 66		– 62	– 7				– 346	– 261
– 33	– 23	– 38	– 34	– 61	– 53	– 122	– 142	– 1 015	– 841
17 965	**18 552**	**5 764**	**5 631**	**2 684**	**2 708**	**20 907**	**23 971**	**117 496**	**123 318**
– 2 742	– 2 976	– 697	– 827	– 960	– 879	– 34 469	– 37 876	– 51 556	– 53 549
15 223	**15 576**	**5 067**	**4 804**	**1 724**	**1 829**	**– 13 562**	**– 13 905**	**65 940**	**69 769**
						15 154	14 853	15 154	14 853
15 223	**15 576**	**5 067**	**4 804**	**1 724**	**1 829**	**1 592**	**948**	**81 094**	**84 622**
2 824	2 925	1 535	1 453	431	415	710	627	15 627	15 840
335	307	192	159	74	64	190	153	2 186	1 653
11 356	11 886	2 883	2 973	867	938	20	20	61 912	64 923
24	32	6	9	4	14	3	6	336	495
18	16	4	8			8 579	8 342	8 622	8 385
						24	23	32	23
						5 075	8 134	5 075	8 134
						20 229	22 987	20 229	22 987
						8 467	9 399	8 467	9 399

3. SEGMENTATION OF KEY FIGURES 2011 AND 2010 (CONTINUED)

The following countries accounted for more than 5% of at least one of the respective Group totals for the years ended December 31, 2011 and 2010:

Country	Net sales[1]				Total of selected non-current assets[2]			
USD millions	**2011**	**%**	**2010**	**%**	**2011**	**%**	**2010**	**%**
Switzerland	726	1	608	1	38 827	45	40 246	45
United States	19 225	33	16 893	33	30 061	35	30 377	34
Germany	4 362	7	3 999	8	4 214	5	4 267	5
Japan	5 281	9	4 288	8	204		153	
France	2 848	5	2 460	5	299		317	
Other	26 124	45	22 376	45	12 556	15	13 788	16
Group	**58 566**	**100**	**50 624**	**100**	**86 161**	**100**	**89 148**	**100**
Europe	21 507	37	19 169	38	51 101	59	53 461	60
Americas	24 705	42	21 545	43	33 211	39	33 868	38
Asia / Africa / Australasia	12 354	21	9 910	19	1 849	2	1 819	2
Group	**58 566**	**100**	**50 624**	**100**	**86 161**	**100**	**89 148**	**100**

[1] Net sales from operations by location of third party customer.
[2] Total of property, plant and equipment, goodwill, intangible assets and investment in associated companies

The Group's largest customer accounts for approximately 9% of net sales, and the second and third largest customer account for 7% each of net sales (2010: 8%, 8% and 7% respectively). No other customer accounts for 2% or more of net sales, in both years.

The highest amounts of trade receivables outstanding were for these three customers. They amounted to 10%, 6% and 6%, respectively, of the Group's trade receivables at December 31, 2011 (2010: 9%, 5% and 6% respectively).

PHARMACEUTICALS DIVISION THERAPEUTIC AREA NET SALES

Therapeutic areas

	2011 USD millions	2010 USD millions	Change USD %
Cardiovascular and Metabolism			
Hypertension medicines			
Diovan	5 665	6 053	– 6
Exforge	1 209	904	34
Subtotal Valsartan Group	6 874	6 957	– 1
Tekturna/Rasilez	557	438	27
Subtotal Hypertension	**7 431**	**7 395**	**0**
Galvus	677	391	73
Total strategic franchise products	**8 108**	**7 786**	**4**
Established medicines	1 027	1 369	– 25
Total Cardiovascular and Metabolism products	**9 135**	**9 155**	**0**
Oncology			
Gleevec/Glivec	4 659	4 265	9
Tasigna	716	399	79
Subtotal Bcr-Abl franchise	5 375	4 664	15
Zometa	1 487	1 511	– 2
Sandostatin	1 443	1 291	12
Femara	911	1 376	– 34
Exjade	850	762	12
Afinitor	443	243	82
Other	163	181	– 10
Total Oncology products	**10 672**	**10 028**	**6**
Neuroscience and Ophthalmics			
Lucentis	2 050	1 533	34
Exelon/Exelon Patch	1 067	1 003	6
Comtan/Stalevo	614	600	2
Gilenya	494	15	nm
Extavia	154	124	24
Other (including *Fanapt*)	159	190	– 16
Total strategic franchise products	**4 538**	**3 465**	**31**
Established medicines	547	567	– 4
Total Neuroscience and Ophthalmics products	**5 085**	**4 032**	**26**

Therapeutic areas

	2011 USD millions	2010 USD millions	Change USD %
Respiratory			
Xolair	478	369	30
TOBI	296	279	6
Onbrez Breezhaler	103	33	nm
Total strategic franchise products	**877**	**681**	**29**
Established medicines	172	174	– 1
Total Respiratory products	**1 049**	**855**	**23**
Integrated Hospital Care (IHC)*			
Neoral/Sandimmun	903	871	4
Myfortic	518	444	17
Zortress/Certican	187	144	30
Ilaris	48	26	85
Other	363	293	24
Total strategic franchise products	**2 019**	**1 778**	**14**
Established medicines	1 453	1 469	– 1
Total IHC products	**3 472**	**3 247**	**7**
Additional products			
Voltaren (excl. OTC)	794	791	0
Ritalin/Focalin	550	464	19
Tegretol	364	355	3
Foradil	312	353	– 12
Trileptal	263	253	4
Everolimus stent drug	256	240	7
Other	556	533	4
Total additional products	**3 095**	**2 989**	**4**
Total strategic franchise products	**26 214**	**23 738**	**10**
Total established medicines and additional products	6 294	6 568	– 4
Total Division net sales	**32 508**	**30 306**	**7**

* includes Transplantation
nm – not meaningful

The product portfolio of other segments is widely spread and none of the products or product ranges exceed 5% of the net sales of the Group in 2011 and 2010.

4. ASSOCIATED COMPANIES

Novartis has the following significant investments in associated companies which are accounted for using the equity method:

	Balance sheet value		Net income statement effect	
	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions
Roche Holding AG, Switzerland	8 362	8 173	499	380
Alcon Inc., Switzerland				433
Others	260	212	29	– 9
Total	**8 622**	**8 385**	**528**	**804**

The results of the Group's associated companies are adjusted to be in accordance with IFRS as applied by Novartis in cases where IFRS is not already used.

Since up-to-date financial data are not available when Novartis produces its consolidated financial results, a survey of analyst estimates is used to estimate the Group's share of net income in Roche Holding. Any differences between these estimates and actual results are adjusted in the Group's 2012 consolidated financial statements when available.

The following table shows summarized financial information of Roche for the year ended December 31, 2010 since 2011 data is not yet available:

	Asset billions	Liabilities billions	Revenue billions	Net income billions
Roche (CHF)	61.0	49.4	49.2	8.9

ROCHE HOLDING AG

The Group's holding in Roche voting shares was 33.3% at December 31, 2011 and 2010. This investment represents approximately 6.3% of Roche's total outstanding voting and non-voting equity instruments. The purchase price allocation was performed on the basis of publicly available information at the time of acquisition.

The December 31, 2011 balance sheet value allocation is as follows:

	USD millions
Novartis share of Roche's estimated net assets	2 828
Novartis share of re-appraised intangible assets	1 882
Implicit Novartis goodwill	3 030
Current value of share in net identifiable assets and goodwill	**7 740**
Accumulated equity accounting adjustments and translation effects less dividends received	622
December 31, 2011 balance sheet value	**8 362**

The identified intangible assets principally relate to the value of currently marketed products and are amortized on a straight-line basis over their estimated average useful life of 20 years.

The income statement effects from applying Novartis accounting principles for this investment in 2011 and 2010 are as follows:

	2011 USD millions	2010 USD millions
Novartis share of Roche's estimated current-year consolidated net income	702	559
Prior-year adjustment	– 41	– 43
Amortization of fair value adjustments relating to intangible assets, net of taxes of USD 47 million (2010: USD 41 million)	– 162	– 136
Net income effect	**499**	**380**

The publicly quoted market value of the Novartis interest in Roche (Reuters symbol: RO.S) at December 31, 2011, was USD 9.5 billion (2010: USD 8.2 billion).

ALCON, INC.

The Group's initial holding in Alcon voting shares was acquired on July 7, 2008. In 2010, the Group completed its purchase of an additional 52% of Alcon resulting in approximately 77% ownership. As from August 25, 2010 Alcon is fully consolidated and no longer accounted for as an associated company. The impact on the Group's consolidated income statement for the period from January 1, 2010 to August 25, 2010 is as follows:

	2010 USD millions
Novartis share of Alcon's current-year consolidated net income	385
Prior-year adjustment	2
Revaluation of initial 25% interest to fair value	378
Recycling of losses accumulated in comprehensive income from July 7, 2008 to August 25, 2010	– 43
Amortization of fair value adjustments relating to intangible assets, net of taxes of USD 61 million	– 289
Net income effect	**433**

5. INTEREST EXPENSE AND OTHER FINANCIAL INCOME/EXPENSE

	2011 USD millions	2010 USD millions
Interest expense	– 699	– 615
Expense due to discounting long-term liabilities	– 52	– 77
Total interest expense	**– 751**	**– 692**
Interest income	62	103
Dividend income	1	3
Net capital losses on available-for-sale securities	– 122	
Impairment of available-for-sale securities	– 3	– 4
Income on options and forward contracts	192	66
Expenses on options and forward contracts	– 67	– 38
Other financial expense	– 38	– 39
Currency result, net	– 27	– 27
Total other financial income/(expense)	**– 2**	**64**

During 2011, a significant portion of the income on options and forward contracts represented an economic hedge for the capital losses on available-for-sale securities. This could not be recognized as a hedge for accounting purposes.

6. TAXES

INCOME BEFORE TAXES

	2011 USD millions	2010 USD millions
Switzerland	2 993	4 679
Foreign	7 780	7 023
Total income before taxes	**10 773**	**11 702**

CURRENT AND DEFERRED INCOME TAX EXPENSE

	2011 USD millions	2010 USD millions
Switzerland	– 488	– 425
Foreign	– 2 182	– 1 749
Total current income tax expense	**– 2 670**	**– 2 174**
Switzerland	161	– 94
Foreign	981	535
Total deferred tax income	**1 142**	**441**
Total income tax expense	**– 1 528**	**– 1 733**

ANALYSIS OF TAX RATE

The main elements contributing to the difference between the Group's overall expected tax rate (which can change each year since it is calculated as the weighted average tax rate based on pre-tax income of each subsidiary) and the effective tax rate are:

	2011 %	2010 %
Expected tax rate	15.5	15.8
Effect of disallowed expenditures	2.5	3.0
Effect of utilization of tax losses brought forward from prior periods	– 0.1	– 0.1
Effect of tax credits and allowances	– 2.4	– 2.1
Effect of tax benefits expiring in 2017	– 0.7	– 0.4
Effect of write-down of investments in subsidiaries	– 0.5	– 0.7
Prior year and other items	– 0.1	– 0.7
Effective tax rate	**14.2**	**14.8**

The utilization of tax-loss carry-forwards lowered the tax charge by USD 6 million in 2011 and by USD 17 million in 2010, respectively.

7. EARNINGS PER SHARE

Basic earnings per share (EPS) is calculated by dividing net income attributable to shareholders of Novartis AG by the weighted average number of shares outstanding in a reporting period. This calculation excludes the average number of issued shares purchased by the Group and held as treasury shares.

	2011	2010
Basic earnings per share		
Weighted average number of shares outstanding (in millions)	2 382	2 286
Net income attributable to shareholders of Novartis AG (USD millions)	**9 113**	**9 794**
Basic earnings per share (USD)	**3.83**	**4.28**

For diluted EPS, the weighted average number of shares outstanding is adjusted to assume the vesting of all restricted shares and the conversion of all potentially dilutive shares arising from options on Novartis shares that have been issued.

	2011	2010
Diluted earnings per share		
Weighted average number of shares outstanding (in millions)	2 382	2 286
Adjustment for vesting of restricted shares and dilutive shares from options (in millions)	31	15
Weighted average number of shares for diluted earnings per share (in millions)	2 413	2 301
Net income attributable to shareholders of Novartis AG (USD millions)	**9 113**	**9 794**
Diluted earnings per share (USD)	**3.78**	**4.26**

Options equivalent to 78.0 million shares (2010: 82.9 million) were excluded from the calculation of diluted EPS since they were not dilutive.

8. CHANGES IN CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

The consolidated statements of comprehensive income includes the Group's net income for the year as well as all other valuation adjustments recorded in the Group's consolidated balance sheet but which under IFRS are not recorded in the consolidated income statement. These include fair value adjustments to financial instruments, actuarial losses or gains on defined benefit pension and other post-employment plans, revaluation of previously held equity interests (up to December 31, 2009 when the applicable standard changed) and currency translation effects, net of tax. These amounts are subject to significant volatility outside of the control of management due to such factors as share price, foreign currency and interest rate movements.

The following table summarizes these value adjustments and currency translation effects attributable to Novartis shareholders:

	Fair value adjustments to marketable securities USD millions	Fair value adjustments of deferred cash flow hedges USD millions	Actuarial losses from defined benefit plans USD millions	Revaluation of previously held equity interests USD millions	Cumulative currency translation effects USD millions	Total value adjustments USD millions
Value adjustments at January 1, 2010	**231**	**– 223**	**– 2 560**	**685**	**3 135**	**1 268**
Fair value adjustments on financial instruments	– 73	41				– 32
Net actuarial losses from defined benefit plans			– 678			– 678
Currency translation effects					534	534
Total value adjustments in 2010	**– 73**	**41**	**– 678**		**534**	**– 176**
Value adjustments at December 31, 2010	**158**	**– 182**	**– 3 238**	**685**	**3 669**	**1 092**
Fair value adjustments on financial instruments	– 21	41				20
Net actuarial losses from defined benefit plans			– 1 429			– 1 429
Currency translation effects					– 534	– 534
Total value adjustments in 2011	**– 21**	**41**	**– 1 429**		**– 534**	**– 1 943**
Value adjustments at December 31, 2011	**137**	**– 141**	**– 4 667**	**685**	**3 135**	**– 851**

8.1) The 2011 and 2010 changes in the fair value of financial instruments:

	Fair value adjustments to marketable securities USD millions	Fair value adjustments of deferred cash flow hedges USD millions	Total USD millions
Fair value adjustments at January 1, 2011	**157**	**– 182**	**– 25**
Changes in fair value:			
– Available-for-sale marketable securities	– 32		– 32
– Available-for-sale financial investments	– 141		– 141
– Associated companies' movements in comprehensive income	– 8		– 8
Realized net gains transferred to the consolidated income statement:			–
– Marketable securities sold	– 13		– 13
– Other financial assets sold	– 13		– 13
Amortized net losses on cash flow hedges transferred to the consolidated income statement		44	44
Impaired marketable securities and other financial assets transferred to the consolidated income statement	192		192
Deferred tax on above items	– 5	– 3	– 8
Fair value adjustments during the year	**– 20**	**41**	**21**
Attributable to:			
Shareholders of Novartis AG	*– 21*	*41*	*20*
Non-controlling interests	*1*		*1*
Fair value adjustments at December 31, 2011	**137**	**– 141**	**– 4**

	Fair value adjustments to marketable securities USD millions	Fair value adjustments of deferred cash flow hedges USD millions	Total USD millions
Fair value adjustments at January 1, 2010	**231**	**– 223**	**8**
Changes in fair value:			
– Available-for-sale marketable securities	19		19
– Available-for-sale financial investments	– 226		– 226
– Associated companies' movements in comprehensive income	– 5		– 5
Realized net gains transferred to the consolidated income statement:			
– Marketable securities sold	– 39		– 39
– Other financial assets sold	– 15		– 15
Amortized net losses on cash flow hedges transferred to the consolidated income statement		44	44
Impaired marketable securities and other financial assets transferred to the consolidated income statement	164		164
Deferred tax on above items	28	– 3	25
Fair value adjustments during the year	**– 74**	**41**	**– 33**
Attributable to:			
Shareholders of Novartis AG	*– 73*	*41*	*– 32*
Non-controlling interests	*– 1*		*– 1*
Fair value adjustments at December 31, 2010	**157**	**– 182**	**– 25**

8.2) Actuarial losses from defined benefit plans arise from:

	2011 USD millions	2010 USD millions
Defined benefit pension plans before tax	– 1 876	– 832
Other post-employment benefit plans before tax	– 55	– 24
Taxation on above items	510	171
Total after tax	**– 1 421**	**– 685**
Attributable to:		
Shareholders of Novartis AG	*– 1 429*	*– 678*
Non-controlling interests	*8*	*– 7*

8.3) The Group has investments in associated companies, principally Roche Holding AG. The Group's share in movements in these companies' other comprehensive income are recognized directly in the respective categories of the Novartis consolidated statement of comprehensive income, net of tax. The currency translation effects and fair value adjustments of associated companies are included in the corresponding Group amounts. All other movements in these companies' statements of comprehensive income are recognized directly in the consolidated statement of comprehensive income under "Novartis share of other items recorded in comprehensive income recognized by associated companies, net of taxes". These amounted to income of USD 1 million (2010: loss of USD 94 million. The loss includes a gain of USD 43 million arising from the recycling to the consolidated income statement the net losses accumulated in the consolidated statement of comprehensive income during the time Alcon, Inc. was accounted for as an associated company from July 2008 to August 2010).

9. CHANGES IN CONSOLIDATED EQUITY

9.1) At the 2011 Annual General meeting, a dividend of CHF 2.20 per share was approved that amounted to USD 5.4 billion, and was paid in 2011 (2010: CHF 2.10 per share dividend payment that amounted to USD 4.5 billion). The amount available for distribution as a dividend to shareholders is based on the available distributable retained earnings of Novartis AG determined in accordance with the legal provisions of the Swiss Code of Obligation.

9.2) In 2011 a total of 54.7 million shares net were purchased for USD 3.5 billion (2010: sale of 8.4 million for USD 342 million), out of which 39.4 million shares were acquired under the share repurchase program.

9.3) Equity-settled share-based compensation is expensed in the consolidated income statement in accordance with the vesting or service period of the share-based compensation plans. In 2011 7.2 million shares (2010: 6.7 million shares) were transferred to associates as part of equity-based compensation. The value for the shares and options expensed in 2011, including associated tax, amounted to USD 806 million (2010: USD 599 million) and is credited to consolidated equity.

9.4) In 2010 a reduction in consolidated equity attributable to Novartis of USD 74 million arose from a dilution of the Novartis interest in Alcon, Inc. since obtaining majority control on August 25, 2010. This was due to an increase in Alcon's outstanding shares, principally due to the issuance of new shares and the use of Alcon treasury shares to satisfy conversion of Alcon's equity-based instruments held by associates.

9.5) As required by IAS 27 the excess of the consideration exchanged by Novartis to acquire the additional non-controlling interests in Alcon, Inc. over the value of the related outstanding non-controlling interests of Alcon, Inc. is recognized against consolidated equity. In 2011 this led to a USD 5.7 billion reduction in equity (2010: USD 96 million, mainly due to the acquisition of additional shares in Alcon, Inc.). Also deducted are USD 59 million of merger related transaction costs.

9.6) Changes in non-controlling interests are mainly due to the acquisition of the remaining non-controlling interests in Alcon, Inc. leading to a reduction of USD 6.6 billion (2010: increase of USD 6.3 billion due to full consolidation of Alcon, Inc. from August 25, 2010).

9.7) A total of 164.7 million Novartis shares with a fair value of USD 9.2 billion were exchanged on April 8, 2011 to obtain the outstanding non-controlling interest in Alcon, Inc. These shares consisted of 108 million newly issued shares and 56.7 million treasury shares.

10. PROPERTY, PLANT & EQUIPMENT MOVEMENTS

	Land USD millions	Buildings USD millions	Construction in progress USD millions	Machinery & other equipment USD millions	Total USD millions
2011					
Cost					
January 1	**827**	**10 674**	**2 327**	**15 129**	**28 957**
Acquisition and divestment of consolidated business	12	20		9	41
Reclassifications[1]		888	– 1 688	800	
Additions	2	105	1 616	463	2 186
Disposals and derecognitions[2]	– 3	– 148	– 21	– 638	– 810
Currency translation effects	– 7	– 110	– 70	– 252	– 439
December 31	**831**	**11 429**	**2 164**	**15 511**	**29 935**
Accumulated depreciation					
January 1	**– 19**	**– 4 318**	**– 6**	**– 8 774**	**– 13 117**
Depreciation on divested consolidated business		3		6	9
Reclassifications[1]		– 3		3	
Depreciation charge	– 3	– 438		– 1 287	– 1 728
Depreciation on disposals and derecognitions[2]		117		575	692
Impairment charge		– 55	– 4	– 354	– 413
Currency translation effects		48		201	249
December 31	**– 22**	**– 4 646**	**– 10**	**– 9 630**	**– 14 308**
Net book value at December 31	**809**	**6 783**	**2 154**	**5 881**	**15 627**
Insured value at December 31					**34 483**
Net book value of property, plant & equipment under finance lease contracts					**4**
Commitments for purchases of property, plant & equipment					**583**

[1] Reclassifications between various asset categories due to completion of plant and other equipment under construction.
[2] Derecognition of tangible assets which are no longer used and are not considered to have a significant disposal value or other alternative use.

The Group was awarded government grants in the United States for the construction of a manufacturing facility to produce flu vaccines. The contracts included a maximum of USD 294 million cost reimbursement for construction activities and equipment, of which USD 223 million was received by December 31, 2011 (2010: USD 185 million). These grants were deducted in arriving at the carrying value of the assets since the receipt of the respective government grant is reasonably assured. There are no onerous contracts or unfulfilled conditions in connection with this grant.

Borrowing costs on new additions to property, plant and equipment have been capitalized and amounted to USD 1 million in 2011 (2010: USD 1 million).

The impairment charge for property, plant and equipment in 2011 amounted to USD 413 million (2010: USD 10 million).

	Land USD millions	Buildings USD millions	Construction in progress USD millions	Machinery & other equipment USD millions	Total USD millions
2010					
Cost					
January 1	**709**	**9 380**	**2 176**	**13 635**	**25 900**
Impact of business combinations	95	474	244	606	1 419
Reclassifications[1]	12	616	– 1 407	779	
Additions	3	62	1 260	328	1 653
Disposals and derecognitions[2]	– 2	– 49	– 28	– 295	– 374
Currency translation effects	10	191	82	76	359
December 31	**827**	**10 674**	**2 327**	**15 129**	**28 957**
Accumulated depreciation					
January 1	**– 13**	**– 3 869**	**– 8**	**– 7 935**	**– 11 825**
Reclassifications[1]		5		– 5	
Depreciation charge	– 4	– 343		– 1 016	– 1 363
Depreciation on disposals and derecognitions[2]		29		264	293
Impairment charge		– 3	2	– 9	– 10
Currency translation effects	– 2	– 137		– 73	– 212
December 31	**– 19**	**– 4 318**	**– 6**	**– 8 774**	**– 13 117**
Net book value at December 31	**808**	**6 356**	**2 321**	**6 355**	**15 840**
Insured value at December 31					**32 288**
Net book value of property, plant & equipment under finance lease contracts					**4**
Commitments for purchases of property, plant & equipment					**597**

[1] Reclassifications between various asset categories due to completion of plant and other equipment under construction.
[2] Derecognition of tangible assets which are no longer used and are not considered to have a significant disposal value or other alternative use.

11. GOODWILL AND INTANGIBLE ASSET MOVEMENTS

	Goodwill USD millions	Acquired research & development USD millions	Alcon brand name USD millions	Technologies USD millions	Currently marketed products USD millions	Marketing know-how USD millions	Other intangible assets USD millions	Total of intangible assets other than goodwill USD millions
2011								
Cost								
January 1	**30 261**	**4 627**	**2 980**	**6 699**	**22 740**	**5 960**	**1 135**	**44 141**
Impact of business combinations	303	7		3	101		1	112
Reclassifications[1]		– 255			260		– 5	
Additions[2]	69	122			43		102	267
Disposals and derecognitions[3]	– 48	– 1 420			– 19		– 4	– 1 443
Currency translation effects	– 134	10		– 21	– 85		– 7	– 103
December 31	**30 451**	**3 091**	**2 980**	**6 681**	**23 040**	**5 960**	**1 222**	**42 974**
Accumulated amortization								
January 1	**– 569**	**– 1 565**		**– 370**	**– 6 254**		**– 721**	**– 8 910**
Amortization charge				– 589	– 2 090	– 238	– 111	– 3 028
Amortization on disposals and derecognitions[3]	48	1 420			19		4	1 443
Impairment charge		– 338			– 287		– 2	– 627
Reversal of impairment charge					8			8
Currency translation effects	13	22		9	69		9	109
December 31	**– 508**	**– 461**		**– 950**	**– 8 535**	**– 238**	**– 821**	**– 11 005**
Net book value at December 31	**29 943**	**2 630**	**2 980**	**5 731**	**14 505**	**5 722**	**401**	**31 969**

[1] Reclassifications between various asset categories as a result of product launches of acquired In-Process Research & Development.
[2] Additions to goodwill relates to finalization of Alcon, Inc., acquisition accounting
[3] Derecognitions of intangible assets which are no longer used or being developed and are not considered to have a significant disposal value or other alternative use.

	Goodwill USD millions	Acquired research & development USD millions	Alcon brand name USD millions	Technologies USD millions	Currently marketed products USD millions	Marketing know-how USD millions	Other intangible assets USD millions	Total of intangible assets other than goodwill USD millions
2010								
Cost								
January 1	**12 624**	**3 216**		**1 271**	**11 737**		**954**	**17 178**
Impact of business combinations	17 986	1 418	2 980	5 460	10 561	5 960	44	26 423
Reclassifications[1]		– 474			474			
Additions		344			62		89	495
Disposals and derecognitions[2]		– 24			– 184		– 13	– 221
Currency translation effects	– 349	147		– 32	90		61	266
December 31	**30 261**	**4 627**	**2 980**	**6 699**	**22 740**	**5 960**	**1 135**	**44 141**
Accumulated amortization								
January 1	**– 585**	**– 547**		**– 273**	**– 5 395**		**– 632**	**– 6 847**
Reclassifications[1]				– 16			16	
Amortization charge				– 91	– 970		– 74	– 1 135
Amortization on disposals and derecognitions[2]		22			95		12	129
Impairment charge		– 991			– 14		– 13	– 1 018
Reversal of impairment charge		2			105			107
Currency translation effects	16	– 51		10	– 75		– 30	– 146
December 31	**– 569**	**– 1 565**		**– 370**	**– 6 254**		**– 721**	**– 8 910**
Net book value at December 31	**29 692**	**3 062**	**2 980**	**6 329**	**16 486**	**5 960**	**414**	**35 231**

[1] Reclassifications between various asset categories as a result of product launches of acquired In-Process Research & Development.
[2] Derecognitions of intangible assets which are no longer used or being developed and are not considered to have a significant disposal value or other alternative use.

SEGMENTATION OF GOODWILL AND INTANGIBLE ASSETS

The net book values at December 31, 2011 of goodwill and intangible assets are allocated to the Group's segments as summarized below:

	Goodwill USD millions	Acquired research & development USD millions	Alcon brand name USD millions	Technologies USD millions	Currently marketed products USD millions	Marketing know-how USD millions	Other intangible assets USD millions	Total of intangible assets other than goodwill USD millions
Pharmaceuticals	3 077	1 309		2	1 639		217	3 167
Alcon	17 740	598	2 980	4 836	8 639	5 722	27	22 802
Sandoz	7 697	592		678	2 378		11	3 659
Vaccines and Diagnostics	1 197	128		215	1 210		133	1 686
Consumer Health	226				639		2	641
Corporate	6	3					11	14
Total	**29 943**	**2 630**	**2 980**	**5 731**	**14 505**	**5 722**	**401**	**31 969**
Potential impairment charge, if any, if discounted cash flows fell by 5%		3			5			
Potential impairment charge, if any, if discounted cash flows fell by 10%		7			21			

The recoverable amount of a cash-generating unit and related goodwill is based on the higher of "fair value less costs to sell" or "value in use". The following assumptions are used in the calculations:

	Pharmaceuticals %	Alcon %	Sandoz %	Vaccines and Diagnostics %	Consumer Health %
Sales growth rate assumptions after forecast period	0.4	3	0 to 2	0.5	0 to 2
Discount rate (post-tax)	7	7	7	7	7

In 2011, intangible asset impairment charges of USD 627 million were recorded. USD 552 million of these arose in the Pharmaceuticals Division, principally due to the expected reduction in demand for *Tekturna/Rasilez* (aliskiren) and discontinuation of PRT128 (elinogrel), SMC021 (oral calcitonin), PTK796 and AGO178 (agomelatine) development programs. USD 75 million of impairment charges arose in all other Divisions.

In 2010, Novartis recorded impairment charges totaling USD 1.0 billion. These relate to impairment charges of USD 356 million for *Mycograb*, USD 250 million for PTZ601, USD 228 million for albinterferon alfa-2b and USD 120 million for ASA404 as Novartis decided to discontinue the related development projects. Additionally, USD 40 million were recorded for various other impairment charges in the Pharmaceuticals Division. Novartis also recorded various impairment charges of USD 24 million in Sandoz and Consumer Health.

Reversal of prior year impairment charges amounted to USD 8 million (2010: USD 107 million).

12. DEFERRED TAX ASSETS AND LIABILITIES

	Property, plant & equipment USD millions	Intangible assets USD millions	Pensions and other benefit obligations of associates USD millions	Inventories USD millions	Tax loss carryforwards USD millions	Other assets, provisions and accruals USD millions	Valuation allowance USD millions	Total USD millions
Gross deferred tax assets at January 1, 2011	131	251	1 086	1 792	241	2 007	– 19	5 489
Gross deferred tax liabilities at January 1, 2011	– 951	– 5 689	– 409	– 253	– 10	– 626		– 7 938
Net deferred tax balance at January 1, 2011	– 820	– 5 438	677	1 539	231	1 381	– 19	– 2 449
At January 1, 2011	**– 820**	**– 5 438**	**677**	**1 539**	**231**	**1 381**	**– 19**	**– 2 449**
(Charged)/credited to income	68	350	28	418	– 28	322	– 16	1 142
(Charged)/credited to equity						22		22
(Charged)/credited to comprehensive income			510			– 32		478
Impact of business combinations						– 9		– 9
Other movements	– 38	154	– 12	– 162	– 15	– 18	3	– 88
Net deferred tax balance at December 31, 2011	**– 790**	**– 4 934**	**1 203**	**1 795**	**188**	**1 666**	**– 32**	**– 904**
Gross deferred tax assets at December 31, 2011	**157**	**234**	**1 576**	**2 020**	**201**	**2 221**	**– 32**	**6 377**
Gross deferred tax liabilities at December 31, 2011	**– 947**	**– 5 168**	**– 373**	**– 225**	**– 13**	**– 555**		**– 7 281**
Net deferred tax balance at December 31, 2011	**– 790**	**– 4 934**	**1 203**	**1 795**	**188**	**1 666**	**– 32**	**– 904**
Deferred tax assets and liabilities after offsetting amounts of USD 520 millions recorded in companies within the same tax jurisdiction								
Deferred tax assets at December 31, 2011								**5 857**
Deferred tax liabilities at December 31, 2011								**– 6 761**
Net deferred tax balance at December 31, 2011								**– 904**
Gross deferred tax assets at January 1, 2010	72	281	931	1 429	232	1 687	– 17	4 615
Gross deferred tax liabilities at January 1, 2010	– 829	– 2 024	– 526	– 275		– 753		– 4 407
Net deferred tax balance at January 1, 2010	– 757	– 1 743	405	1 154	232	934	– 17	208
At January 1, 2010	**– 757**	**– 1 743**	**405**	**1 154**	**232**	**934**	**– 17**	**208**
(Charged)/credited to income	– 11	431	– 127	165	– 49	32		441
(Charged)/credited to equity						– 4		– 4
(Charged)/credited to comprehensive income			171			41		212
Impact of business combinations	– 54	– 4 163	203	237	60	357	– 2	– 3 362
Other movements	2	37	25	– 17	– 12	21		56
Net deferred tax balance at December 31, 2010	**– 820**	**– 5 438**	**677**	**1 539**	**231**	**1 381**	**– 19**	**– 2 449**
Gross deferred tax assets at December 31, 2010	131	251	1 086	1 792	241	2 007	– 19	5 489
Gross deferred tax liabilities at December 31, 2010	– 951	– 5 689	– 409	– 253	– 10	– 626		– 7 938
Net deferred tax balance at December 31, 2010	– 820	– 5 438	677	1 539	231	1 381	– 19	– 2 449
Deferred tax assets and liabilities after offsetting amounts of USD 249 millions recorded in companies within the same tax jurisdiction								
Deferred tax assets at December 31, 2010								**5 240**
Deferred tax liabilities at December 31, 2010								**– 7 689**
Net deferred tax balance at December 31, 2010								**– 2 449**

A reversal of valuation allowance could occur when circumstances make the realization of deferred taxes probable. This would result in a decrease in the Group's effective tax rate.

Deferred tax assets of USD 2.3 billion (2010: USD 2.3 billion) and deferred tax liabilities of USD 6.5 billion (2010: USD 7.1 billion) are expected to have an impact on current taxes payable after more than twelve months.

At December 31, 2011, unremitted earnings of USD 51 billion (2010: USD 45 billion) have been retained by subsidiary companies for reinvestment. No provision is made for income taxes that would be payable upon the distribution of these earnings. If these earnings were remitted, an income tax charge could result based on the tax statutes currently in effect.

	2011 USD millions	2010 USD millions
Temporary differences on which no deferred tax has been provided as they are permanent in nature related to:		
– Investments in subsidiaries	4 782	7 137
– Goodwill from acquisitions	– 25 089	– 24 711

The gross value of tax-loss carry-forwards that have, or have not, been capitalized as deferred tax assets, with their expiry dates is as follows:

	Not capitalized USD millions	Capitalized USD millions	2011 total USD millions
One year	81	2	83
Two years	171	4	175
Three years	175	38	213
Four years	72	29	101
Five years	63	100	163
More than five years	419	443	862
Total	**981**	**616**	**1 597**

	Not capitalized USD millions	Capitalized USD millions	2010 total USD millions
One year	155	1	156
Two years	67	4	71
Three years	159	8	167
Four years	159	18	177
Five years	58	158	216
More than five years	446	503	949
Total	**1 044**	**692**	**1 736**

Deferred tax assets related to taxable losses of relevant Group entities are recognized to the extent it is considered probable that future taxable profits will be available against which such losses can be utilized in the foreseeable future.

In 2011, USD 155 million (2010: USD 11 million) of tax-loss carry-forwards expired.

13. FINANCIAL ASSETS

	2011 USD millions	2010 USD millions
Financial investments, long-term loans and other investments	938	857
Loans to associated companies		1
Prepaid post-employment benefit plans	38	982
Total financial assets	**976**	**1 840**

Available-for-sale financial investments at December 31, 2011, totaling USD 604 million (2010: USD 712 million) are valued at fair value, while long-term loans and other investments of USD 334 million (2010: USD 145 million) are valued at amortized cost or at cost.

In 2011, impairments on available-for-sale financial investments amounted to USD 189 million (2010: USD 160 million). In 2011 no reversal of impairments occurred (2010: USD 2 million). These amounts were recorded in the consolidated income statement under "Other expense" or "Other income", respectively.

14. INVENTORIES

	2011 USD millions	2010 USD millions
Raw material, consumables	930	931
Finished products	5 000	5 162
Total inventories	**5 930**	**6 093**

The following summarizes movements in inventory write-downs deducted from inventory categories. Reversals of inventory provisions mainly result from the reassessment of inventory values manufactured prior to regulatory approval but for which approval was subsequently received:

	2011 USD millions	2010 USD millions
January 1	**– 879**	**– 653**
Impact of business combinations		– 101
Inventory write-downs charged to the consolidated income statement	– 1 554	– 1 106
Utilization of inventory provisions	921	593
Reversal of inventory provisions	738	396
Currency translation effects	33	– 8
December 31	**– 741**	**– 879**

15. TRADE RECEIVABLES

	2011 USD millions	2010 USD millions
Total gross trade receivables	10 542	10 094
Provisions for doubtful trade receivables	– 219	– 221
Total trade receivables, net	**10 323**	**9 873**

The following table summarizes the movement in the provision for doubtful trade receivables:

	2011 USD millions	2010 USD millions
January 1	**– 221**	**– 143**
Impact of business combinations	– 9	– 56
Provisions for doubtful trade receivables charged to the consolidated income statement	– 116	– 76
Utilization or reversal of provisions for doubtful trade receivables	121	56
Currency translation effects	6	– 2
December 31	**– 219**	**– 221**

The following sets forth details of the age of trade receivables that are not overdue as specified in the payment terms and conditions established with Novartis customers as well as an analysis of overdue amounts and related provisions for doubtful trade receivables:

	2011 USD millions	2010 USD millions
Not overdue	8 967	8 684
Past due for not more than one month	498	366
Past due for more than one month but less than three months	295	320
Past due for more than three months but less than six months	249	217
Past due for more than six months but less than one year	228	208
Past due for more than one year	305	299
Provisions for doubtful trade receivables	– 219	– 221
Total trade receivables, net	**10 323**	**9 873**

Provisions for doubtful trade receivables are established based upon the difference between the receivable value and the estimated net collectible amount. Novartis establishes provisions for doubtful trade receivables based on historical loss experience. Significant financial difficulties of a customer, such as probability of bankruptcy or financial reorganization or default/delinquency in payments are considered indicators that recovery of trade receivables are doubtful.

Trade receivable balances include sales to government-supported healthcare systems. Novartis continues to monitor sovereign debt issues and economic conditions in Greece, Italy, Spain, Portugal and other countries in Europe and evaluates accounts receivable in these countries for potential collection risks. Deteriorating credit and economic conditions and other factors in these countries have resulted in, and may continue to result in an increase in the average length of time that it takes to collect these accounts receivable and may require Novartis to re-evaluate the collectability of these receivables in future periods.

Novartis does not expect to write off trade receivable amounts that are not past due nor unprovided for. The Group holds security amounting to USD 36 million as collateral for certain trade receivables.

Trade receivables include amounts denominated in the following major currencies:

Currency	2011 USD millions	2010 USD millions
CHF	288	230
EUR	2 636	2 108
GBP	139	168
JPY	1 929	1 494
USD	2 865	3 888
Other	2 466	1 985
Total trade receivables, net	**10 323**	**9 873**

During 2011, Novartis entered into several significant irrevocable factoring arrangements. As a result USD 538 million of trade receivables have been sold and derecognized.

16. CASH, MARKETABLE SECURITIES AND DERIVATIVE FINANCIAL INSTRUMENTS

The following tables show the contract or underlying principal amounts and fair values of derivative financial instruments analyzed by type of contract at December 31, 2011 and 2010. Contract or underlying principal amounts indicate the volume of business outstanding at the consolidated balance sheet date and do not represent amounts at risk. The fair values are determined by reference to market prices or standard pricing models that used observable market inputs at December 31, 2011 and 2010.

DERIVATIVE FINANCIAL INSTRUMENTS

	Contract or underlying principal amount		Positive fair values		Negative fair values	
	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions
Currency related instruments						
Forward foreign exchange rate contracts	6 456	4 814	105	38	– 12	– 44
Over-the-Counter currency options	2 102	4 000	13	3	– 18	
Total of currency related instruments	**8 558**	**8 814**	**118**	**41**	**– 30**	**– 44**
Interest rate related instruments						
Interest rate swaps		61		1		
Total of interest rate related instruments		**61**		**1**		
Total derivative financial instruments included in marketable securities and in current financial debts	**8 558**	**8 875**	**118**	**42**	**– 30**	**– 44**

The following table shows by currency contract or underlying principal amount the derivative financial instruments at December 31, 2011 and 2010:

December 31, 2011	EUR USD millions	USD USD millions	JPY USD millions	Other USD millions	Total USD millions
Currency related instruments					
Forward foreign exchange rate contracts	3 706	1 746	255	749	6 456
Over-the-Counter currency options		2 000		102	2 102
Total of currency related instruments	**3 706**	**3 746**	**255**	**851**	**8 558**
Total derivative financial instruments	**3 706**	**3 746**	**255**	**851**	**8 558**

December 31, 2010	EUR USD millions	USD USD millions	JPY USD millions	Other USD millions	Total USD millions
Currency related instruments					
Forward foreign exchange rate contracts	2 039	1 776	286	713	4 814
Over-the-Counter currency options		4 000			4 000
Total of currency related instruments	**2 039**	**5 776**	**286**	**713**	**8 814**
Interest rate related instruments					
Interest rate swaps			61		61
Total of interest rate related instruments			**61**		**61**
Total derivative financial instruments	**2 039**	**5 776**	**347**	**713**	**8 875**

DERIVATIVE FINANCIAL INSTRUMENTS EFFECTIVE FOR HEDGE ACCOUNTING PURPOSES

At the end of 2011 and 2010 there were no open hedging instruments for anticipated transactions.

MARKETABLE SECURITIES, TIME DEPOSITS AND DERIVATIVE FINANCIAL INSTRUMENTS

	2011 USD millions	2010 USD millions
Available-for-sale marketable securities		
Debt securities	1 131	2 596
Equity securities	73	106
Fund investments	32	55
Total available-for-sale marketable securities	**1 236**	**2 757**
Derivative financial instruments	118	42
Accrued interest on debt securities	12	16
Total marketable securities, time deposits and derivative financial instruments	**1 366**	**2 815**

Debt securities and time deposits are denominated in USD except for debt securities of USD 694 million in CHF (2010: USD 580 million) and USD 26 million in EUR (2010: USD 176 million) respectively.

FAIR VALUE BY HIERARCHY

As required by IFRS, financial assets and liabilities recorded at fair value in the consolidated financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. The IFRS hierarchical levels, based on an increasing amount of subjectivity associated with the inputs to derive fair valuation for these assets and liabilities, are as follows:

Level 1 – Inputs are unadjusted and use quoted prices in active markets for identical assets or liabilities at the measurement date.

The types of assets carried at level 1 fair value are equity and debt securities listed in active markets.

Level 2 – Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly. These inputs are derived principally from, or corroborated by, observable market data by correlation or other means at the measurement date and for the duration of the instruments' anticipated life.

The assets generally included in this fair value hierarchy are time deposits, foreign exchange and interest rate derivatives and certain investment funds. Foreign exchange derivatives and interest rate derivatives are valued using corroborated market data. The liabilities generally included in this fair value hierarchy consist of foreign exchange derivatives and options on equity securities.

Level 3 – Inputs that are unobservable for the asset or liability. These inputs reflect the Group's best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation techniques and the risk inherent in the inputs to the models.

The assets generally included in this fair value hierarchy are various investments in hedge funds and unquoted equity security investments of the Novartis Venture Funds investment activities. There were no liabilities carried at fair value in this category.

2011	Level 1 USD millions	Level 2 USD millions	Level 3 USD millions	Valued at amortized cost USD millions	Total USD millions
Available-for-sale marketable securities					
Debt securities	1 103	28			1 131
Equity securities	53		20		73
Fund investments			32		32
Total available-for-sale marketable securities	**1 156**	**28**	**52**		**1 236**
Derivative financial instruments		118			118
Accrued interest on debt securities				12	12
Total marketable securities, time deposits and derivative financial instruments	**1 156**	**146**	**52**	**12**	**1 366**
Financial investments and long-term loans					
Available-for-sale financial investments	261		331		592
Fund investments			12		12
Long-term loans and receivables, advances, security deposits				334	334
Total financial investments and long-term loans	**261**		**343**	**334**	**938**
Financial liabilities					
Derivative financial instruments		– 30			– 30
Total financial liabilities at fair value		**– 30**			**– 30**

2010	Level 1 USD millions	Level 2 USD millions	Level 3 USD millions	Valued at amortized cost USD millions	Total USD millions
Available-for-sale marketable securities					
Debt securities	1 285	1311			2 596
Equity securities	86		20		106
Fund investments			55		55
Total available-for-sale marketable securities	**1 371**	**1311**	**75**		**2 757**
Derivative financial instruments		42			42
Accrued interest on debt securities				16	16
Total marketable securities, time deposits and derivative financial instruments	**1 371**	**1 353**	**75**	**16**	**2 815**
Financial investments and long-term loans					
Available-for-sale financial investments	352		348		700
Fund investments			12		12
Loans to associated companies				1	1
Long-term loans and receivables, advances, security deposits				145	145
Total financial investments and long-term loans	**352**		**360**	**146**	**858**
Financial liabilities					
Derivative financial instruments		– 44			– 44
Total financial liabilities at fair value		**– 44**			**– 44**

The analysis above includes all financial instruments including those measured at amortized cost or at cost.

16. CASH, MARKETABLE SECURITIES AND DERIVATIVE FINANCIAL INSTRUMENTS (CONTINUED)

The change in carrying values associated with level 3 financial instruments using significant unobservable inputs during the year ended December 31 are set forth below:

2011	Equity securities USD millions	Fund investments USD millions	Available-for-sale financial investments USD millions	Total USD millions
January 1	**20**	**67**	**348**	**435**
Gains recognized in the consolidated income statement		1	23	24
Impairments and amortizations		– 3	– 24	– 27
Gains (losses) recognized in the consolidated statement of comprehensive income	1	2	– 7	– 4
Purchases			74	74
Redemptions		– 24		– 24
Proceeds from sales	– 1		– 82	– 83
Currency translation effects		1	– 1	
December 31	**20**	**44**	**331**	**395**
Total of gains and impairments, net recognized in the consolidated income statement for assets held at December 31, 2011		– 2	– 1	– 3

2010	Equity securities USD millions	Fund investments USD millions	Available-for-sale financial investments USD millions	Total USD millions
January 1	**55**	**107**	**347**	**509**
Impact of business combinations		6		6
Gains recognized in the consolidated income statement	1	7	4	12
Impairments and amortizations		– 4	– 42	– 46
Losses recognized in the consolidated statement of comprehensive income		– 5		– 5
Purchases			70	70
Redemptions		– 48		– 48
Proceeds on sales	– 36		– 36	– 72
Currency translation effects		4	5	9
December 31	**20**	**67**	**348**	**435**
Total of gains and impairments, net recognized in the consolidated income statement for assets held at December 31, 2010		3	– 36	– 33

If the pricing parameters for the level 3 input were to change for equity securities and fund investments by 5% and for available-for-sale financial investments by 10% positively or negatively, respectively, this would change the amounts recorded in the consolidated statement of comprehensive income by USD 3 million or USD 33 million, respectively (2010: USD 4 million and USD 35 million).

MARKET RISK

Novartis is exposed to market risk, primarily related to foreign currency exchange rates, interest rates and the market value of the investments of liquid funds. The Group actively monitors these exposures. To manage the volatility relating to these exposures, the Group enters into a variety of derivative financial instruments. The Group's objective is to reduce, where it deems appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates, foreign currency exchange rates and market rates of investments of liquid funds and of the currency exposure of certain net investments in foreign subsidiaries. It is the Group's policy and practice to use derivative financial instruments to manage exposures and to enhance the yield on the investment of liquid funds. It does not enter any financial transactions containing a risk that cannot be quantified at the time the transaction is concluded. In addition, it does not sell short assets it does not have, or does not know it will have, in the future. The Group only sells existing assets or enters into transactions and future transactions (in the case of anticipatory hedges) that it confidently expects it will have in the future, based on past experience. In the case of liquid funds, the Group writes call options on assets it has or it writes put options on positions it wants to acquire and has the liquidity to acquire. The Group expects that any loss in value for these instruments generally would be offset by increases in the value of the underlying transactions.

FOREIGN CURRENCY EXCHANGE RATE RISK

The Group uses the USD as its reporting currency. As a result, the Group is exposed to foreign currency exchange movements, primarily in European, Japanese and other Asian and Latin American currencies. Consequently, it enters into various contracts that reflect the changes in the value of foreign currency exchange rates to preserve the value of assets, commitments and anticipated transactions. Novartis also uses forward contracts and foreign currency option contracts to hedge certain anticipated net revenues in foreign currencies.

Net investments in subsidiaries in foreign countries are long-term investments. Their fair value changes through movements of foreign currency exchange rates. In the very long term, however, the difference in the inflation rate should match the foreign currency exchange rate movement, so that the market value of the foreign non-monetary assets will compensate for the change due to foreign currency movements. For this reason, the Group only hedges the net investments in foreign subsidiaries in exceptional cases.

COMMODITY PRICE RISK

The Group has only a very limited exposure to price risk related to anticipated purchases of certain commodities used as raw materials by the Group's businesses. A change in those prices may alter the gross margin of a specific business, but generally by not more than 10% of the margin and thus below the Group's risk management tolerance levels. Accordingly, the Group does not enter into significant commodity futures, forward and option contracts to manage fluctuations in prices of anticipated purchases.

INTEREST RATE RISK

The Group addresses its net exposure to interest rate risk mainly through the ratio of its fixed rate financial debt to variable rate financial debt contained in its total financial debt portfolio. To manage this mix, Novartis may enter into interest rate swap agreements, in which it exchanges periodic payments based on a notional amount and agreed upon fixed and variable interest rates.

EQUITY RISK

The Group purchases equities as investments of its liquid funds. As a policy, it limits its holdings in an unrelated company to less than 5% of its liquid funds. Potential investments are thoroughly analyzed in respect to their past financial track record (mainly cash flow and return on investment), their market potential, their management and their competitors. Call options are written on equities that the Group owns, and put options are written on equities which the Group wants to buy and for which cash has been reserved.

CREDIT RISK

Credit risks arise from the possibility that customers may not be able to settle their obligations as agreed. To manage this risk the Group periodically assesses the financial reliability of customers, taking into account their financial position, past experience and other factors. Individual risk limits are set accordingly.

The largest customer accounts for approximately 9 % of net sales and the second and third largest each accounts for 7 % of net sales. No other customer accounts for 2 % or more of net sales.

The highest amounts of trade receivables outstanding were for these three customers. They amounted to 10 %, 6 % and 6 %, respectively, of the Group's trade receivables at December 31, 2011. There is no other significant concentration of credit risk.

COUNTERPARTY RISK

Counterparty risk encompasses issuer risk on marketable securities, settlement risk on derivative and money market contracts and credit risk on cash and time deposits. Issuer risk is reduced by only buying securities which are at least AA- rated. Settlement and credit risk is reduced by the policy of entering into transactions with counterparties that are usually at least AA- rated banks or financial institutions. Exposure to these risks is closely monitored and kept within predetermined parameters. Novartis has policies that limit the amount of credit exposure to any financial institution. The limits are regularly assessed and determined based upon credit analysis including financial statement and capital adequacy ratio reviews. In addition, net settlement agreements are contracted with significant counterparties.

The Group's cash and cash equivalents are held with major regulated financial institutions, the three largest ones hold approximately 31.8 %, 12.5 % and 12.1 %, respectively (2010: 14%, 9% and 8%, respectively).

The Group does not expect any losses from non-performance by these counterparties and does not have any significant grouping of exposures to financial sector or country risk.

LIQUIDITY RISK

Liquidity risk is defined as the risk that the Group could not be able to settle or meet its obligations on time or at a reasonable price. Group Treasury is responsible for liquidity, funding as well as settlement management. In addition, liquidity and funding risks, related processes and policies are overseen by management. Novartis manages its liquidity risk on a consolidated basis based on business needs, tax, capital or regulatory considerations, if applicable, through numerous sources of finance in order to maintain flexibility. Management monitors the Group's net debt or liquidity position through rolling forecasts on the basis of expected cash flows.

Our liquidity needs may change if overall economic conditions worsen and/or liquidity and credit within the financial markets remains tight for an extended period of time, and such conditions impact the collectability of our customer accounts receivable, or impact credit terms with our vendors, or disrupt the supply of raw materials and services.

The following table sets forth how management monitors net debt or liquidity based on details of the remaining contractual maturities of financial assets and liabilities excluding trade receivables and payables at December 31, 2011 and 2010:

December 31, 2011	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Due after five years USD millions	Total USD millions
Current assets						
Marketable securities			36	638	562	1 236
Derivative financial instruments and accrued interest on derivative financial instruments	61	15	54			130
Cash and cash equivalents	3 709					3 709
Total current financial assets	**3 770**	**15**	**90**	**638**	**562**	**5 075**
Non-current liabilities						
Financial debts				9 874	3 981	13 855
Total non-current financial debt				**9 874**	**3 981**	**13 855**
Current liabilities						
Financial debts	4 039	1 100	1 205			6 344
Derivative financial instruments	7	7	16			30
Total current financial debt	**4 046**	**1 107**	**1 221**			**6 374**
Net debt	**– 276**	**– 1 092**	**– 1 131**	**– 9 236**	**– 3 419**	**– 15 154**

December 31, 2010	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Due after five years USD millions	Total USD millions
Current assets						
Marketable securities	1		593	1 441	722	2 757
Derivative financial instruments and accrued interest on derivative financial instruments	14	33	11			58
Cash and cash equivalents	5 319					5 319
Total current assets	**5 334**	**33**	**604**	**1 441**	**722**	**8 134**
Non-current liabilities						
Financial debts				8 399	5 961	14 360
Total non-current liabilities				**8 399**	**5 961**	**14 360**
Current liabilities						
Financial debts	5 480	2 093	1 010			8 583
Derivative financial instruments	23	5	16			44
Total current liabilities	**5 503**	**2 098**	**1 026**			**8 627**
Net debt	**– 169**	**– 2 065**	**– 422**	**– 6 958**	**– 5 239**	**– 14 853**

The consolidated balance sheet amounts of financial liabilities included in the above analysis are not materially different to the contractual amounts due on maturity. The positive and negative fair values on derivative financial instruments represent the net contractual amounts to be exchanged at maturity.

Cash and cash equivalents at December 31, 2011 totaled USD 3.7 billion (2010: USD 5.3 billion) and include current accounts of USD 1.9 billion (2010: USD 2.0 billion) and deposits and short-term investments with an initial maturity of less than three months and Euro-commercial papers of USD 1.8 billion (2010: USD 3.3 billion). This amount contains USD 74 million (2010: nil) which covers a guarantee and so it is restricted in use.

The Group's contractual undiscounted potential cash flows from derivative financial instruments to be settled on a gross basis are as follows:

December 31, 2011	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Total USD millions
Derivative financial instruments and accrued interest on derivative financial instruments					
Potential outflows in various currencies	– 4 315	– 738	– 1 208		– 6 261
Potential inflows in various currencies	4 366	738	1 241		6 345

December 31, 2010	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Total USD millions
Derivative financial instruments and accrued interest on derivative financial instruments					
Potential outflows in various currencies	– 1 842	– 467	– 935		– 3 244
Potential inflows in various currencies	1 830	485	928		3 243

Other contractual liabilities, which are not part of management's monitoring of the net debt or liquidity consist of the following items:

December 31, 2011	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Due after five years USD millions	Total USD millions
Contractual interest on non-current liabilities		– 236	– 247	– 1 410	– 637	– 2 530
Trade payables		– 4 989				– 4 989

December 31, 2010	Due or due within one month USD millions	Due later than one month but less than three months USD millions	Due later than three months but less than one year USD millions	Due later than one year but less than five years USD millions	Due after five years USD millions	Total USD millions
Contractual interest on non-current liabilities		– 236	– 261	– 1 694	– 835	– 3 026
Trade payables		– 4 788				– 4 788

CAPITAL RISK MANAGEMENT

Novartis strives to maintain strong debt ratings. In managing its capital, Novartis focuses on a sound debt/equity ratio. Credit agencies in 2011 maintained their ratings for Novartis. Moody's rated the Group as Aa2 for long-term maturities and P-1 for short-term maturities and Standard & Poor's had a rating of AA- for long-term and A-1+ for short-term maturities. Fitch had a long-term rating of AA and a short-term rating of F1+.

The 2011 year-end debt/equity ratio decreased to 0.31:1 from 0.33:1 in 2010 principally due to less current financial debt being outstanding under the commercial paper program.

VALUE AT RISK

The Group uses a value at risk (VAR) computation to estimate the potential ten-day loss in the fair value of its financial instruments.

A 10-day period is used because of an assumption that not all positions could be undone in one day given the size of the positions. The VAR computation includes the Group's financial debt, short-term and long-term investments, foreign currency forwards, swaps and options as well as anticipated transactions. Foreign currency trade payables and receivables as well as net investments in foreign subsidiaries are included in the computation.

The VAR estimates are made assuming normal market conditions, using a 95% confidence interval. The Group uses a "Delta Normal" model to determine the observed inter-relationships between movements in interest rates, stock markets and various currencies. These inter-relationships are determined by observing interest rate, stock market movements and forward foreign currency rate movements over a 60 day period for the calculation of VAR amounts.

The estimated potential 10-day loss in pre-tax income from the Group's foreign currency instruments, the estimated potential 10-day loss of its equity holdings, and the estimated potential 10-day loss in fair value of its interest rate sensitive instruments (primarily financial debt and investments of liquid funds under normal market conditions) as calculated in the VAR model are the following:

	Dec 31, 2011 USD millions	Dec 31, 2010 USD millions
All financial instruments	235	311
Analyzed by components:		
Instruments sensitive to foreign currency exchange rates	145	193
Instruments sensitive to equity market movements	56	27
Instruments sensitive to interest rates	102	219

The average, high, and low VAR amounts are as follows:

2011	Average USD millions	High USD millions	Low USD millions
All financial instruments	214	281	180
Analyzed by components:			
Instruments sensitive to foreign currency exchange rates	98	219	50
Instruments sensitive to equity market movements	49	74	28
Instruments sensitive to interest rates	154	190	96

2010	Average USD millions	High USD millions	Low USD millions
All financial instruments	267	319	139
Analyzed by components:			
Instruments sensitive to foreign currency exchange rates	192	271	98
Instruments sensitive to equity market movements	49	76	27
Instruments sensitive to interest rates	164	219	70

The VAR computation is a risk analysis tool designed to statistically estimate the maximum potential ten day loss from adverse movements in foreign currency exchange rates, equity prices and interest rates under normal market conditions. The computation does not purport to represent actual losses in fair value on earnings to be incurred by the Group, nor does it consider the effect of favorable changes in market rates. The Group cannot predict actual future movements in such market rates and it does not claim that these VAR results are indicative of future movements in such market rates or to be representative of any actual impact that future changes in market rates may have on the Group's future results of operations or financial position.

In addition to these VAR analyses, the Group uses stress testing techniques that aim to reflect a worst case scenario on the financial assets monitored by Group Treasury. For these calculations, the Group uses the worst movements during a period of six months over the past 20 years in each category. For 2011 and 2010, the worst case loss scenario was configured as follows:

	Dec 31, 2011 USD millions	Dec 31, 2010 USD millions
All financial instruments	406	406
Analyzed by components:		
Instruments sensitive to foreign currency exchange rates	328	286
Instruments sensitive to equity market movements	31	59
Instruments sensitive to interest rates	47	62

In the Group's risk analysis, Novartis considered this worst case scenario acceptable as it could reduce income, but would not endanger the solvency or the investment grade credit standing of the Group. While it is highly unlikely that all worst case fluctuations would happen simultaneously, as shown in the model, the actual market can of course produce bigger movements in the future than it has historically. Additionally, in such a worst case environment, management actions could further mitigate the Group's exposure.

17. OTHER CURRENT ASSETS

	2011 USD millions	2010 USD millions
Withholding tax recoverable	173	103
Prepaid expenses		
– Third parties	694	735
– Associated companies	12	7
Other receivables		
– Third parties	1 864	1 735
– Associated companies	13	5
Total other current assets	**2 756**	**2 585**

18. DETAILS OF SHARES AND SHARE CAPITAL MOVEMENTS

	Number of shares[1]				
	Dec 31, 2009	Movement in year	Dec 31, 2010	Movement in year	Dec 31, 2011
Total Novartis shares	2 637 623 000		2 637 623 000	108 000 000	2 745 623 000
Total treasury shares	– 363 269 649	15 091 827	– 348 177 822	9 248 679	– 338 929 143
Total outstanding shares	**2 274 353 351**	**15 091 827**	**2 289 445 178**	**117 248 679**	**2 406 693 857**
	USD millions	USD millions	USD millions	USD millions	USD millions
Share capital	957		957	59	1 016
Treasury shares	– 132	7	– 125	4	– 121
Outstanding share capital	**825**	**7**	**832**	**63**	**895**

[1] All shares are registered, authorized, issued and fully paid. All are voting shares and, except for 146 273 240 treasury shares at December 31, 2011 (2010: 159 381 837) are dividend bearing.

In 2011 an amount of 54.7 million shares net were purchased (2010: sales of 8.4 million shares). Out of these, 39.4 million shares (2010: nil) were acquired under the 2nd line buy-back program with the intention of cancellation, 20.4 million shares (2010: 0.4 million shares) were purchased on the 1st trading line on the Swiss stock exchange with the intention of retaining in Group Treasury and 5.1 million shares (2010: 8.8 million shares) were sold. Further, 7.2 million shares (2010: 6.7 million shares) were transferred to associates as part of the equity-based compensation and 56.7 million shares were used for the acquisition of the outstanding Alcon, Inc. non-controlling interests. Accordingly, the net reduction in treasury shares amounted to 9.2 million.

Following the Extraordinary General Meeting of Novartis AG on April 8, 2011, 108 million new Novartis shares were issued and these, together with the 56.7 million treasury shares, were exchanged for the outstanding interests in Alcon, Inc., which was then merged into Novartis AG on the same day.

There are outstanding written call options on Novartis shares of 35 million originally issued as part of the share-based compensation of associates. The market maker has acquired these options but they have not yet been exercised. The weighted average exercise price of these options is USD 51.35 and they have contractual lives of up to 10 years.

19. NON-CURRENT FINANCIAL DEBTS

	2011 USD millions	2010 USD millions
Straight bonds	13 483	13 512
Liabilities to banks and other financial institutions [1]	1 146	942
Finance lease obligations	4	4
Total (including current portion of non-current financial debt)	**14 633**	**14 458**
Less current portion of non-current financial debt	– 778	– 98
Total non-current financial debts	**13 855**	**14 360**

Straight bonds		
3.625% CHF 800 million bond 2008/2015 of Novartis AG, Basel, Switzerland, issued at 100.35%	844	842
3.5% CHF 700 million bond 2008/2012 of Novartis Securities Investment Ltd., Hamilton, Bermuda, issued at 100.32%	744	743
5.125% USD 3 000 million bond 2009/2019 of Novartis Securities Investment Ltd., Hamilton, Bermuda, issued at 99.822%	2986	2 984
4.125% USD 2 000 million bond 2009/2014 of Novartis Capital Corporation, New York, United States, issued at 99.897%	1996	1 994
4.25% EUR 1 500 million bond 2009/2016 of Novartis Finance S.A., Luxembourg, Luxembourg, issued at 99.757%	1935	1 978
1.9% USD 2 000 million bond 2010/2013 of Novartis Capital Corporation, New York, United States, issued at 99.867%	1998	1 996
2.9% USD 2 000 million bond 2010/2015 of Novartis Capital Corporation, New York, United States, issued at 99.522%	1990	1 986
4.4% USD 1 000 million bond 2010/2020 of Novartis Capital Corporation., New York, United States, issued at 99.237%	990	989
Total straight bonds	**13 483**	**13 512**

[1] Average interest rate 0.9% (2010: 1.6%)

		2011 USD millions	2010 USD millions
Breakdown by maturity	2011		98
	2012	778	785
	2013	2 029	2 023
	2014	2 789	2 750
	2015	3 108	2 841
	2016	1 948	1 983
	After 2016	3 981	3 978
Total		**14 633**	**14 458**

		2011 USD millions	2010 USD millions
Breakdown by currency	USD	9 962	9 953
	EUR	2 042	2 104
	JPY	1 031	798
	CHF	1 589	1 584
	Others	9	19
Total		**14 633**	**14 458**

Fair value comparison	2011 Balance sheet USD millions	2011 Fair values USD millions	2010 Balance sheet USD millions	2010 Fair values USD millions
Straight bonds	13 483	14 794	13 512	14 350
Others	1 150	1 150	946	946
Total	**14 633**	**15 944**	**14 458**	**15 296**

Collateralized non-current financial debt and pledged assets	2011 USD millions	2010 USD millions
Total amount of collateralized non-current financial debts	7	30
Total net book value of property, plant & equipment pledged as collateral for non-current financial debts	100	108

The Group's collateralized non-current financial debt consists of loan facilities at usual market conditions.

The percentage of fixed rate financial debt to total financial debt was 72% at December 31, 2011, and 63% at the end of 2010.

Financial debts, including current financial debts, contain only general default covenants. The Group is in compliance with these covenants.

The average interest rate on total financial debt in 2011 was 2.7% (2010: 3.1%).

20. PROVISIONS AND OTHER NON-CURRENT LIABILITIES

	2011 USD millions	2010 USD millions
Accrued liability for employee benefits:		
– Defined benefit pension plans	2 991	2 317
– Other long-term employee benefits and deferred compensation	600	461
– Other post-employment benefits	1 098	1 057
Environmental provisions	1 059	1 066
Provisions for product liabilities and other legal matters	777	693
Contingent consideration	482	586
Other non-current liabilities	785	662
Total	**7 792**	**6 842**

PRODUCT LIABILITY PROVISIONS

For the Group's pharmaceutical products, sufficient product liability insurance is not available. In connection with potential product liability exposures for these products the Group establishes provisions for estimated obligations for claims and related legal defense costs. The provisions are based on management's judgment, advice from legal counsel and actuarially determined estimates. Actual liabilities, however, could substantially exceed the provisions that Novartis has put in place. Novartis believes that its insurance coverage and provisions are reasonable and its provisions are the best estimate in light of its business and the risk to which it is subject.

The largest portion of product liability risk provisions has been determined taking into consideration factors such as past experience, number and amount of claims reported, estimates of claims incurred but not reported, the cost of defending claims and other assumptions. As actual experience becomes known the Group refines and adjusts its product liability estimates. If any of the assumptions used in these calculations turn out to be incorrect or require material adjustment, there could be a material difference between the amount of provisions that have been recorded and the actual liability. At December 31, 2011, the discount rates used to calculate the provision are based on government bond rates and vary by payment duration and geography (US and non-US) between 0.9 % and 1.8 % (2010: between 2.2% and 2.5%). The consolidated income statement effect of a 1% increase or decrease in the discount rate is USD 25 million (2010: USD 26 million) income and USD 26 million expense (2010: USD 28 million), respectively.

ENVIRONMENTAL PROVISIONS

The material components of the environmental provisions consist of costs to sufficiently clean and refurbish contaminated sites to the extent necessary and to treat and where necessary continue surveillance at sites where the environmental exposure is less significant. The provision recorded at December 31, 2011 totals USD 1.1 billion (2010: USD 1.1 billion) of which USD 59 million (2010: USD 60 million) is included in current liabilities. USD 861 million (2010: USD 875 million) is provided for remediation at third party sites and USD 257 million (2010: USD 251 million) for remediation at owned facilities.

A substantial portion of the environmental provision relates to the remediation of Basel regional landfills in the adjacent border areas in Switzerland, Germany and France following the internal and external investigations completed during 2007 and the subsequent creation of an environmental remediation provision.

In the US, Novartis has been named under federal legislation (the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended) as a potentially responsible party (PRP) in respect of certain sites. Novartis actively participates in, or monitors, the clean-up activities at the sites in which it is a PRP. The provision takes into consideration the number of other PRPs at each site and the identity and financial position of such parties in light of the joint and several nature of the liability.

The requirement in the future for Novartis ultimately to take action to correct the effects on the environment of prior disposal or release of chemical substances by Novartis or other parties, and its costs, pursuant to environmental laws and regulations, is inherently difficult to estimate. The Novartis future remediation expenses are affected by a number of uncertainties which include, but are not limited to, the method and extent of remediation, the percentage of material attributable to Novartis at the remediation sites relative to that attributable to other parties, the financial capabilities of the other potentially responsible parties and the timing of expected expenditures. Novartis believes that its total provisions for environmental matters are adequate based upon currently available information. However, given the inherent difficulties in estimating liabilities in this area, Novartis may incur additional costs beyond the amounts provided. Management believes that such additional amounts, if any, would not be material to the Group's financial condition but could be material to the results of operations or cash flows in a given period.

The following table shows the movements in the environmental liability provisions during 2011 and 2010:

	2011 USD millions	2010 USD millions
January 1	**1 126**	**1 010**
Cash payments	– 29	– 20
Releases	– 8	– 2
Interest expense arising from discounting provisions	29	39
Currency translation effects		99
December 31	**1 118**	**1 126**
Less current liability	– 59	– 60
Non-current environmental liability provisions at December 31	**1 059**	**1 066**

The expected timing of the related cash outflows as of December 31, 2011 is currently projected as follows:

	Expected cash outflows USD millions
Due within two years	167
Due later than two years, but less than five years	330
Due later than five years but less than ten years	506
Due after ten years	115
Total environmental liability provisions	**1 118**

LEGAL MATTERS

A number of Novartis subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time, including proceedings regarding product liability, commercial disputes, employment and wrongful discharge, antitrust, securities, sales and marketing practices, health and safety, environmental, tax, privacy, and intellectual property matters. As a result, the Group may become subject to substantial liabilities that may not be covered by insurance and could affect our business and reputation. While Novartis does not believe that any of these legal proceedings will have a material adverse effect on its financial position, litigation is inherently unpredictable and large verdicts sometimes occur. As a consequence, Novartis may in the future incur judgments or enter into settlements of claims that could have a material adverse effect on its results of operations or cash flows.

Governments and regulatory authorities have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, insider trading, antitrust and trade restrictions. Responding to such investigations is costly and a significant diversion of management's attention from our business. In addition, such investigations may affect our reputation and create a risk of potential exclusion from government reimbursement programs in the US and other countries. These factors have contributed to decisions by us and other companies in our industry to enter into settlement agreements with governmental authorities around the world. Those settlements have involved and may continue to involve large cash payments, including the potential repayment of amounts allegedly obtained improperly and penalties up to treble damages. In addition, settlements of healthcare fraud cases typically involve corporate integrity agreements which are intended to regulate company behavior for a period of years. Also, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Below is a summary of significant legal proceedings to which Novartis or its subsidiaries are a party or were a party and which were concluded in 2011.

GOVERNMENTAL INVESTIGATIONS

SDNY INVESTIGATION

In the fourth quarter of 2011, Novartis Pharmaceuticals Corporation (NPC) received a subpoena from the US Attorney's Office (USAO) for the Southern District of New York (SDNY) requesting the production of documents relating to marketing practices, including the remuneration of healthcare providers in connection with three NPC products (*Lotrel, Starlix and Valturna*). NPC is cooperating with the investigation which is civil and criminal in nature.

ALCON INVESTIGATION

In the third quarter of 2011, Alcon Laboratories Inc. (Alcon) received a subpoena from the US Department of Health & Human Services relating to an investigation into allegations of healthcare fraud. The subpoena requests the production of documents relating to marketing practices, including the remuneration of healthcare providers in connection with certain Alcon products (*Vigamox*, *Nevanac*, *Omnipred*, *Econopred*; surgical equipment). Alcon is cooperating with the investigation which is civil in nature

WDNY INVESTIGATION

In 2010, NPC became aware of an investigation by the USAO for the Western District of New York (WDNY) into informed consent issues relating to clinical trials in China and into marketing practices, including the remuneration of healthcare providers in connection with a number of Novartis products. NPC is cooperating with the investigation which is civil in nature.

EC DAWN RAID AT SANDOZ FRANCE

In 2009, the European Commission (EC), together with the French competition authority, searched the offices of Sandoz S.A.S. in France (Sandoz France), alleging that Sandoz France entered into anti-competitive price coordination practices with other generic pharmaceutical companies and via the French trade association for generic pharmaceutical companies. Sandoz France is cooperating with the EC and the French authorities. No follow-up requests have been received from the EC so far.

EC DAWN RAID AT SANDOZ NETHERLANDS AND SANDOZ GERMANY

In 2008, the EC conducted a dawn raid at Sandoz' offices in Holzkirchen, Germany, which was part of the EC sector inquiry. On July 6, 2010, the EC, together with the Dutch and German competition authorities, conducted a follow-up dawn raid at the Dutch and German offices of Sandoz. The EC's investigation focuses on allegations that Sandoz and/or its affiliates may have engaged in anti-competitive practices with respect to *Fentanyl* or other products in coordination with other pharmaceutical companies since 2005. On October 7, 2011, the EC informed Sandoz that it will formally initiate proceedings removing the national competition authorities' competence to investigate this case. The EC's decision was made public in the fourth quarter of 2011. Sandoz is cooperating with the EC.

PRODUCT LIABILITY MATTERS

***Zometa/Aredia* product liability litigation**

NPC together with other Novartis subsidiaries are defendants in more than 720 cases brought in US courts in which plaintiffs claim to have experienced osteonecrosis of the jaw after treatment with *Zometa* or *Aredia*, which are used to treat patients whose cancer has spread to the bones. There were four jury trials so far. The first trial began in Montana state court in October 2009 and resulted in a plaintiff's verdict which NPC appealed to the Montana Supreme Court. On December 30, 2010, the Montana Supreme Court affirmed the trial court's verdict. On March 30, 2011, NPC filed a petition for review with the US Supreme Court. On May 31, 2011, NPC was informed that the US Supreme Court decided not to take this case. The second trial took place in September and October 2010 in a New Jersey state court and resulted in a defense verdict in favor of NPC. This verdict is currently on appeal. The third trial took place in November 2010 in the US District Court for the Middle District of North Carolina and resulted in a plaintiffs' verdict. NPC filed an appeal against this verdict which is pending. The fourth trial took place in May 2011 in the US District Court for the Eastern District of New York and resulted in a defense verdict in favor of NPC. This verdict is also currently on appeal. Multiple trials are currently scheduled throughout the first half of 2012. The first trial began in the Western District of Kentucky on January 9, 2012.

Hormone Replacement Therapy product liability litigation

NPC and other Novartis subsidiaries are defendants, along with various other pharmaceutical companies, in more than 60 cases brought in US courts in which plaintiffs claim to have been injured by hormone replacement therapy products.

***Elidel*® product liability litigation**

NPC and other Novartis subsidiaries are defendants in more than 20 cases brought in US courts in which plaintiffs claim to have experienced injuries, mainly various types of cancer, after having been treated with *Elidel*®, a medicine for atopic dermatitis.

OTHER MATTERS

Average Wholesale Price litigation

Claims have been brought against various pharmaceutical companies, including certain Sandoz entities and NPC, alleging that they fraudulently overstated the Average Wholesale Price (AWP) and "best price", respectively, which are, or have been, used by the US federal and state governments in the calculation of Medicare reimbursements and Medicaid rebates.

In the third quarter of 2011, the US Department of Justice (DoJ) approved an agreement to settle the litigation brought by the State of Texas and the relator Ven-A-Care of the Florida Keys (VAC) as well as claims of the federal government relating to Texas against several Sandoz entities. The settlement amount of USD 66 million, which had already been fully provisioned during 2011, was paid in the third quarter of 2011 and the case has been dismissed.

In the second quarter of 2011, Sandoz Inc. (Sandoz) reached an agreement in principle to settle with the relator VAC the pending AWP action brought on behalf of the US Government as well as the AWP cases brought by the States of California and Florida for a total amount of USD 150 million. On November 3, 2011, the written settlement agreement was executed by all parties and the payment of the settlement amount, which had been fully provisioned for during 2011, was made in the fourth quarter of 2011.

A bench trial against Sandoz in Mississippi chancery court ended on April 15, 2011. On September 2, 2011, the court rendered judgment in favor of Sandoz on the false claims provisions but against Sandoz on the other causes of action and awarded plaintiff a total of USD 38.2 million (USD 23.7 million in compensatory damages, USD 2.7 million in civil penalties and USD 11.8 million in punitive damages). On October 4, 2011, the court granted Sandoz' post-judgment motion to strike the punitive damage award. An evidentiary hearing will now take place in order to determine whether punitive damages are appropriate and, if so, in what amount punitive damages should be awarded.

Further, Sandoz was a defendant in a trial in Alabama in 2009. The jury rendered a verdict against it and awarded compensatory damages of USD 28 million and punitive damages of USD 50 million. Sandoz appealed the verdict to the Supreme Court of Alabama in January 2010. A decision is still outstanding.

A further trial involving Sandoz took place in Kentucky in June 2009. The jury rendered a verdict against Sandoz and imposed USD 16 million in compensatory damages, and the Court awarded USD 13.6 million in penalties, which were subsequently reduced to USD 11.2 million. Sandoz appealed this verdict in March 2010. A decision is still outstanding.

On October 12, 2011, plaintiffs offered to settle the New York City, New York Counties, Erie, Oswego, Schenectady and Iowa cases for USD 25 million. Sandoz has agreed in principle and the terms of the settlement are currently being negotiated with plaintiffs. The settlement amount was fully provisioned for in the fourth quarter of 2011.

Wage and Hour litigation

Certain pharmaceutical sales representatives filed suit in a state court in California and in the US District Court for the SDNY against NPC alleging that NPC violated wage and hour laws by misclassifying the pharmaceutical sales representatives as "exempt" employees, and by failing to pay overtime compensation. These actions are part of a number of lawsuits pending against pharmaceutical companies that challenge the industry's long-term practice of treating pharmaceutical sales representatives as salaried employees. After the California state court action had been removed to the US District Court for the Central District of California, these collective and class action lawsuits were consolidated in the US District Court for the SDNY for coordinated pre-trial proceedings. A class was certified. In January 2009, after the case had been bifurcated into a liability and a damages phase, the US District Court for the SDNY granted NPC's summary judgment motion holding that NPC's pharmaceutical sales representatives were not entitled to overtime pay under the federal Fair Labor Standards Act and corresponding state wage and hour laws. Plaintiffs appealed that judgment to the US Court of Appeals for the Second Circuit (Second Circuit). Amicus briefs supporting plaintiffs' position were filed by the National Employment Lawyers Association and by the US Department of Labor, and the US Chamber of Commerce filed a brief in support of NPC. On July 6, 2010, the Second Circuit vacated the judgment of the lower court. On October 4, 2010, NPC filed its petition for a writ of certiorari with the US Supreme Court. Amicus briefs in support of NPC's certiorari petition were filed on November 5, 2010, by the US Chamber of Commerce and Pharmaceutical Research and Manufacturers of America (PhRMA). On February 28, 2011, NPC was informed that the US Supreme Court decided not to take this case. The case has now been remanded to the US District Court for the SDNY for pre-trial proceedings relating to damages.

***Lucentis* patent litigation**

Novartis has been sued by and has sued MedImmune in several European countries, including the United Kingdom, Germany, Switzerland, France and the Netherlands. MedImmune alleges that the sale of *Lucentis* in these countries infringes its patents and its rights under its Supplementary Protection Certificates (SPC). In the UK, a trial took place in May 2011. On July 5, 2011, the UK court issued its decision and held that Novartis did not infringe MedImmune's patents and that MedImmune's patents were invalid. MedImmune has filed an appeal against this decision. In Germany, the infringement trial took place on October 18, 2011. On November 10, 2011, the German court ruled that the import and sale of *Lucentis* infringes MedImmune's patent and rights under its SPC in Germany. This decision is being appealed.

CONCLUDED LEGAL MATTERS

***Trileptal/*Five products investigation**

On September 30, 2010, NPC reached a global settlement in order to bring to a close the USAO for the Eastern District of Pennsylvania's (EDPA) investigations into marketing practices and payments made to healthcare providers in connection with *Trileptal* and in connection with five other products, i.e. *Diovan*, *Exforge*, *Sandostatin*, *Tekturna* and *Zelnorm* (Five Products). As part of the settlement, NPC agreed to plead guilty to one misdemeanor violation of misbranding under the US Food, Drug and Cosmetic Act and to pay a fine of USD 185 million for *Trileptal*. NPC also resolved civil allegations under the False Claims Act relating to *Trileptal* and the Five Products and agreed to pay USD 237.5 million. As the fine was formally imposed on NPC at the sentencing hearing in the US District Court for the EDPA on January 28, 2011, and payment of the total overall settlement amount of USD 422.5 million, which had been fully provisioned for in 2010, has been completed in the first quarter of 2011, these investigations are closed now.

Alcon minority shareholder litigation

Beginning on January 7, 2010, shareholder class action complaints relating to the Alcon transactions announced on January 4, 2010, were filed against Novartis AG and others by minority shareholders of Alcon, Inc. These actions were filed in the US Federal District Courts for the SDNY, Eastern District of New York (EDNY) and the Northern District of Texas (NDTX) and in several Texas state courts. The case in the EDNY was voluntarily dismissed without prejudice by the plaintiffs on March 18, 2010. The case in the NDTX was transferred to the SDNY and formally consolidated with the actions pending there on June 25, 2010. In the SDNY, Novartis AG's motion to dismiss all cases pending there based on the doctrine of forum non conveniens (FNC) was granted on May 24, 2010, and the case was formally dismissed on July 2, 2010. On July 14, 2010, plaintiffs appealed this decision to the Second Circuit. On January 5, 2011, plaintiffs moved to dismiss this appeal. On January 6, 2011, the Second Circuit granted plaintiffs' motion and dismissed this appeal. The actions pending in Texas state courts were consolidated for pre-

trial proceedings in a Multi District Litigation on April 16, 2010. Novartis AG's motion to dismiss the consolidated Texas state court actions based on FNC was filed on June 30, 2010. On November 17, 2010, Novartis AG's motion was granted and all Texas state court class actions were dismissed. On December 17, 2010, plaintiffs appealed this decision to the Texas Fifth District Court of Appeals. On March 21, 2011, upon a motion made by plaintiffs, the Texas Fifth District Court of Appeals dismissed the appeal. The dismissals of both the federal and Texas state class actions based on FNC are final after plaintiffs dismissed their appeals. The case, therefore, is concluded.

***Zelnorm* product liability litigation**

NPC together with other Novartis subsidiaries are currently defending against product liability lawsuits brought in US courts in which plaintiffs claim to have experienced cardiovascular injuries after having been treated with *Zelnorm*, a medicine for irritable bowel syndrome and chronic constipation. In the third quarter of 2011, NPC finalized the previously disclosed group settlement agreement with 122 plaintiffs. The finalization of this group settlement alongside other settlements and dismissals in the fourth quarter of 2011 brought the current caseload in the US down from 154 to 2 active cases.

The following table shows the movements in the legal and product liability provisions during 2011 and 2010:

	2011 USD millions	2010 USD millions
January 1	**1 384**	**1 542**
Impact of business combinations		15
Cash payments	– 772	– 669
Releases of provisions	– 16	– 53
Additions to provisions	584	541
Currency translation effects	2	8
December 31	**1 182**	**1 384**
Less current liability	– 405	– 691
Non-current legal and product liability provisions at December 31	**777**	**693**

Novartis believes that its total provisions for legal and product liability matters are adequate based upon currently available information. However, given the inherent difficulties in estimating liabilities, it cannot be guaranteed that additional costs will not be incurred beyond the amounts provided.

21. CURRENT FINANCIAL DEBT

	2011 USD millions	2010 USD millions
Interest bearing accounts of associates	1 357	1 321
Other bank and financial debt	2 053	2 195
Commercial paper	2 156	4 969
Current portion of non-current financial debt	778	98
Fair value of derivative financial instruments	30	44
Total current financial debt	**6 374**	**8 627**

The consolidated balance sheet values of current financial debt, other than the current portion of non-current financial debt, approximate the estimated fair value due to the short-term nature of these instruments.

The weighted average interest rate on the bank and other current financial debt (including employee deposits from the compensation of associates employed by Swiss entities) was 1.7% in 2011 and 2.0% in 2010.

22. PROVISIONS AND OTHER CURRENT LIABILITIES

	2011 USD millions	2010 USD millions
Taxes other than income taxes	578	556
Restructuring provisions	349	241
Accrued expenses for goods and services received but not invoiced	678	731
Provisions for royalties	443	327
Provisions for revenue deductions	3 742	3 097
Provisions for compensation and benefits including social security	2 116	2 058
Environmental liabilities	59	60
Deferred income relating to government grants	70	79
Provision for legal matters	405	691
Accrued share-based payments	217	200
Other payables	1 422	1 493
Total provisions and other current liabilities	**10 079**	**9 533**

Provisions are based upon management's best estimate and adjusted for actual experience. Such adjustments to the historic estimates have not been material.

PROVISION FOR DEDUCTIONS FROM REVENUE

Deductions from revenue are reported as a reduction of revenue. They include rebates, discounts, incentives to retail customers, government agencies, wholesalers, health insurance companies and managed care organizations. These deductions represent estimates of the related obligations, requiring the use of judgment when estimating the effect of these sales deductions. The following table shows the movement of the provision for deductions from revenue:

	2011 USD millions	2010 USD millions
January 1	**3 097**	**2 094**
Impact of business combinations		379
Additions	11 713	8 752
Payments/utilizations	– 10 749	– 8 172
Changes in offset against gross trade receivables	– 227	68
Currency translation effects	– 92	– 24
December 31	**3 742**	**3 097**

RESTRUCTURING PROVISIONS

	Termination costs of associates USD millions	Other third party costs USD millions	Total USD millions
January 1, 2010	**91**	**6**	**97**
Additions	225	36	261
Cash payments	– 81	– 12	– 93
Releases	– 9	– 9	– 18
Currency translation effects	– 5	– 1	– 6
December 31, 2010	**221**	**20**	**241**
Additions	299	47	346
Cash payments	– 189	– 14	– 203
Releases	– 33	– 4	– 37
Currency translation effects	2		2
December 31, 2011	**300**	**49**	**349**

In 2011, there were additions to provisions of USD 151 million in the Pharmaceuticals Division in conjunction with the transfer, outsourcing, closure of selected research operations, as well as simplifying and streamlining of certain development and support functions. The charges comprised termination costs of associates of USD 139 million and other third party costs of USD 12 million. In total, approximately 1 000 associates were affected by this restructuring plan, though none of them had left the Group as of December 31, 2011. It is anticipated that most or all of these associates will leave the Group within the next twelve months.

Also in 2011, additions to provisions were made in conjunction with the integration of Alcon. The charges comprised termination costs of associates of USD 47 million and other third party costs of USD 15 million. In total, approximately 300 associates were affected by the various restructuring plans. Approximately 100 associates had left the Group as of December 31, 2011. It is anticipated that the remainder of these associates will leave the Group within the next twelve months.

The Group-wide review of its manufacturing sites led to additions in restructuring provisions of USD 79 million in 2011 related to the restructuring of the manufacturing and chemical operations, mainly in Switzerland, United Kingdom, US, Italy and Puerto Rico. The charges comprised termination costs of associates of USD 77 million and other third party costs of USD 2 million. As of December 31, 2011, 200 of the approximately 1 000 associates affected by the restructuring plans have left the Group and the remaining associates will leave the Group when their respective activity is transferred to other sites.

Various Group initiatives to further simplify the organization led to restructuring charges of USD 54 million, mainly in Italy and Switzerland. The charges comprised termination costs of associates of USD 36 million and other third party costs of USD 18 million. In total, approximately 300 associates were affected by the various restructuring plans, of which 100 had left the Group as of December 31, 2011. It is anticipated that the remainder of these associates will leave the Group within the next twelve months.

In 2010, additions to provisions of USD 89 million were incurred in conjunction with the adjustment of the field force structures to better support the portfolio of the primary care and neuroscience medicines business within the Pharmaceuticals Division in the United States. The charges comprised termination costs of associates of USD 78 million and other third party costs of USD 11 million. In total, approximately 1 400 associates were affected by the various restructuring plans, all of whom had left the Group as of December 31, 2011.

Also in 2010, additions to provisions of USD 44 million were incurred in conjunction with the consolidation of regional units of the primary care medicines business and the integration of a research entity within the Pharmaceuticals Division in the United States. The charges comprised termination costs of associates of USD 44 million. In total, 383 associates were affected by the various restructuring plans, all of whom had left the Group as of December 31, 2010.

Additions to provisions of USD 62 million were incurred in 2010 in conjunction with the restructuring of the technical and commercial operations of the Vaccines and Diagnostics Division in England, France, Germany, Italy and the United States. The charges comprised termination costs of associates of USD 46 million and other third party costs of USD 16 million. As of December 31, 2011, it is anticipated that all associates will have left the Group in the first quarter 2012.

2010 also saw additions to provisions of USD 66 million which were incurred in conjunction with the restructuring of the commercial operations of the Sandoz Division in Germany. The charges comprised termination costs of associates of USD 57 million and other third party costs of USD 9 million. As of December 31, 2011, it is anticipated that all associates will have left the Group in the first quarter 2012.

The releases to income in 2011 and 2010 of USD 37 million and USD 18 million, respectively, were mainly due to settlement of liabilities at lower amounts than originally anticipated, which in 2011 were principally due to provisions made in relation with prior years restructuring initiatives. Other third party costs are mainly associated with lease and other obligations due to the abandonment of certain facilities.

23. DETAILS TO THE CONSOLIDATED CASH FLOW STATEMENTS

23.1) REVERSAL OF NON-CASH ITEMS

	2011 USD millions	2010 USD millions
Taxes	1 528	1 733
Depreciation, amortization and impairments on		
Property, plant & equipment	2 141	1 373
Intangible assets	3 647	2 046
Financial assets	192	158
Income from associated companies	– 528	– 804
Gains on disposal of property, plant & equipment, intangible, financial and other non-current assets, net	– 518	– 429
Equity-settled compensation expense	790	655
Change in provisions and other non-current liabilities	1 295	802
Net financial income	753	628
Total reversal of non-cash items	**9 300**	**6 162**

23.2) CASH FLOWS FROM CHANGES IN WORKING CAPITAL AND OTHER OPERATING ITEMS INCLUDED IN OPERATING CASH FLOW

	2011 USD millions	2010 USD millions
Change in inventories	45	965
Change in trade receivables	– 732	26
Change in trade payables	195	490
Change in other net current assets and other operating cash flow items	379	281
Total	**– 113**	**1 762**

23.3) CASH FLOW ARISING FROM ACQUISITIONS AND DIVESTMENTS OF BUSINESSES

The following is a summary of the cash flow impact of acquisitions and divestments of businesses:

	2011 Acquisitions USD millions	2011 Divestments USD millions	2010 Acquisitions USD millions
Property, plant & equipment	– 66	16	– 1 419
Currently marketed products	– 101		– 10 561
Marketing know-how			– 5 960
Alcon brand name			– 2 980
Acquired research & development	– 7		– 1 418
Technologies	– 3		– 5 460
Software and other intangible assets	– 1		– 44
Financial and other assets including deferred tax assets	– 7		– 904
Inventories	– 15	8	– 1 112
Trade accounts receivables and other current assets	– 52	5	– 1 696
Marketable securities and cash	– 186	1	– 3 130
Long-term and short-term financial debts			384
Trade payables and other liabilities including deferred tax liabilities	66	– 7	6 626
Net identifiable assets acquired or divested	**– 372**	**23**	**– 27 674**
Acquired / divested liquidity	63	– 1	2 176
Non-controlling interest	19		6 338
Fair value of previously held equity interests			10 320
Sub-total	**– 290**	**22**	**– 8 840**
Goodwill	– 303		– 17 986
Deferred consideration	2		160
Net cash flow	**– 591**	**22**	**– 26 666**

Note 2 provides further information regarding acquisitions and divestments of businesses. All acquisitions were for cash.

24. ACQUISITIONS OF BUSINESSES

ASSETS AND LIABILITIES ARISING FROM ACQUISITIONS

Fair value	2011 USD millions	2010 USD millions
Property, plant & equipment	66	1 419
Currently marketed products	101	10 561
Marketing know-how		5 960
Alcon brand name		2 980
Acquired research & development	7	1 418
Technologies	3	5 460
Software and other intangible assets	1	44
Financial and other assets including deferred tax assets	7	904
Inventories	15	1 112
Trade accounts receivable and other current assets (net of provisions for doubtful trade receivables of USD 56 m in 2010)	52	1 696
Marketable securities and cash	186	3 130
Long-term and short-term financial debts		– 384
Trade payables and other liabilities including deferred tax liabilities	– 66	– 6 626
Net identifiable assets acquired	**372**	**27 674**
Acquired liquidity	– 63	– 2 176
Non-controlling interest	– 19	– 6 338
Goodwill	303	17 986
Net assets recognized as a result of business combinations	**593**	**37 146**

Note 2 provides details on all the significant acquisition of businesses. The 2011 and 2010 goodwill arising out of the acquisitions reflects mainly the value of expected synergies, future products and the acquired assembled workforce.

The following table provides a summary of the final acquisition accounting for Alcon, Inc. as at August 25, 2010:

	USD billions	USD billions
Purchase price for acquiring initial 25% of Alcon		10.4
Purchase price for additional 52% of Alcon		28.3
Total purchase price		**38.7**
Equity adjustments since acquiring the initial 25% interest		– 0.4
Revaluation gain on initial 25% interest		0.4
Investment value on date of change of majority ownership		**38.7**
Net assets reported by Alcon (excluding its goodwill but including any US GAAP/IFRS differences)	5.9	
Estimated fair value adjustments		
– property, plant and equipment	0.1	
– intangible assets	24.5	
– inventory	0.5	
– other liabilities	– 0.1	
– deferred tax liabilities	– 3.8	
Fair value of net assets acquired at December 31, 2010		27.1
Less value attributed to 23% non-controlling interest		– 6.3
Goodwill at December 31, 2010		**17.9**
Increase in goodwill due to reduction in fair value of net assets after final adjustment to acquisition accounting in 2011		0.1
Final goodwill at December 31, 2011		**18.0**

25. POST-EMPLOYMENT BENEFITS OF ASSOCIATES

DEFINED BENEFIT PLANS

Apart from the legally required social security schemes, the Group has numerous independent pension and other post-employment benefit plans. In most cases these plans are externally funded in vehicles which are legally separate from the Group. For certain Group companies, however, no independent plan assets exist for the pension and other long-term benefit obligations of associates. In these cases the related unfunded liability is included in the balance sheet.

Defined benefit pension plans cover a significant number of the Group's associates. The defined benefit obligations and related plan assets of all major plans are reappraised annually by independent actuaries. Plan assets are recorded at fair value and their actual return in 2011 was a loss of USD 129 million (2010: gain of USD 614 million) for pension plans. The defined benefit obligation of unfunded pension plans was USD 938 million at December 31, 2011 (2010: USD 870 million), for unfunded other post-employment plans USD 870 million (2010: USD 907 million).

The following table is a summary of the status of the main funded and unfunded pension and other post-employment benefit plans of associates at December 31, 2011 and 2010:

	Pension plans		Other post-employment benefit plans	
	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions
Benefit obligation at January 1	**20 568**	**18 009**	**1 247**	**817**
Service cost	423	350	60	58
Interest cost	732	667	60	45
Actuarial losses	822	668	37	29
Plan amendments	18	– 290	– 46	
Currency translation effects	– 92	1 193	– 3	3
Benefit payments	– 1 231	– 1 078	– 47	– 57
Contributions of associates	187	133	3	3
Effect of acquisitions, divestments or transfers	303	916	– 70	349
Benefit obligation at December 31	**21 730**	**20 568**	**1 241**	**1 247**
Fair value of plan assets at January 1	**19 265**	**17 611**	**228**	**8**
Expected return on plan assets	909	778	15	5
Actuarial (losses)/gains	– 1 038	– 164	– 18	5
Currency translation effects	– 2	1 340		
Novartis Group contributions	367	381	50	70
Contributions of associates	187	133	3	3
Plan amendments	– 2	– 21		
Benefit payments	– 1 231	– 1 078	– 47	– 57
Effect of acquisitions, divestments or transfers	371	285	– 9	194
Fair value of plan assets at December 31	**18 826**	**19 265**	**222**	**228**
Funded status	**– 2 904**	**– 1 303**	**– 1 019**	**– 1 019**
Unrecognized past service cost	2	3	– 79	– 38
Limitation on recognition of fund surplus	– 51	– 35		
Net liability in the balance sheet at December 31	**– 2 953**	**– 1 335**	**– 1 098**	**– 1 057**
Amounts recognized in the consolidated balance sheet				
Prepaid benefit cost	38	982		
Accrued benefit liability	– 2 991	– 2 317	– 1 098	– 1 057

25. POST-EMPLOYMENT BENEFITS OF ASSOCIATES (CONTINUED)

The net periodic benefit cost recorded in the consolidated income statement consists of the following components:

	Pension plans		Other post-employment benefit plans	
	2011 USD millions	2010 USD millions	2011 USD millions	2010 USD millions
Components of net periodic benefit cost				
Service cost	423	350	60	58
Interest cost	732	667	60	45
Expected return on plan assets	– 909	– 778	– 15	– 5
Recognized past service cost	3	2	– 5	– 5
Curtailment and settlement losses/(gains)	18	– 270		
Net periodic benefit cost/(income)	**267**	**– 29**	**100**	**93**

The following table shows the principal actuarial weighted average assumptions used for calculating defined benefit plans and other post-employment benefits of associates:

	Pension plans		Other post-employment benefit plans	
	2011 %	2010 %	2011 %	2010 %
Weighted average assumptions used to determine benefit obligations at December 31				
Discount rate	3.2%	3.5%	4.3%	5.3%
Expected rate of salary increase	3.3%	3.5%		
Current average life expectancy for a 65-year-old male/female	20/22 years	19/22 years	20/22 years	19/21 years
Weighted average expected return on assets for the period	4.6%	4.6%		

The following table shows a five-year summary reflecting the funding of defined benefit pensions and the impact of historical deviations between expected and actual return on plan assets and experience adjustments on defined benefit pension obligations.

	2011 USD millions	2010 USD millions	2009 USD millions	2008 USD millions	2007 USD millions
Plan assets	18 826	19 265	17 611	16 065	18 355
Defined benefit obligations	– 21 730	– 20 568	– 18 009	– 17 643	– 17 105
(Deficit)/Surplus	**– 2 904**	**– 1 303**	**– 398**	**– 1 578**	**1 250**
Differences between expected and actual return on plan assets	– 1 038	– 164	981	– 3 006	4
Experience adjustments on defined benefit obligation	18	26	12	– 72	– 279

The following table shows the weighted average asset allocation of funded defined benefit pension plans at December 31, 2011 and 2010:

	Pension plans		
	Long-term target %	2011 %	2010 %
Equity securities	15–40	25	31
Debt securities	45–70	49	43
Real estate	0–15	13	12
Cash and other investments	0–15	13	14
Total		**100**	**100**

Strategic pension plan asset allocations are determined with the objective of achieving an investment return which, together with the contributions paid, is sufficient to maintain reasonable control over the various funding risks of the plans. Based upon the market and economic environments, actual asset allocations may periodically be permitted to deviate from policy targets. Expected return assumptions are reviewed periodically and are based on each plan's strategic asset mix. Factors considered in the estimate of the expected return are the risk free interest rate together with risk premiums on the assets of each pension plan.

The expected future cash flows in respect of pension and other post-employment benefit plans at December 31, 2011 were as follows:

	Pension plans USD millions	Other post-employment benefit plans USD millions
Novartis Group contributions		
2012 (estimated)	455	40
Expected future benefit payments		
2012	1 258	51
2013	1 264	53
2014	1 273	56
2015	1 285	59
2016	1 288	62
2017–2021	6 476	363

The healthcare cost trend rate assumptions for other post-employment benefits are as follows:

Healthcare cost trend rate assumptions used	2011	2010
Healthcare cost trend rate assumed for next year	7.7%	7.9%
Rate to which the cost trend rate is assumed to decline	5.0%	5.0%
Year that the rate reaches the ultimate trend rate	2020	2019

A one percentage point change in the assumed healthcare cost trend rates compared to those used for 2011 would have had the following effects:

	1% point increase USD millions	1% point decrease USD millions
Effects on total of service and interest cost components	16	– 13
Effect on post-employment benefit obligations	196	– 159

The number of Novartis AG shares held by pension and similar benefit funds at December 31, 2011 was 19.8 million shares with a market value of USD 1.1 billion (2010: 19.8 million shares with a market value of USD 1.2 billion).

DEFINED CONTRIBUTION PLANS

In many Group companies associates are covered by defined contribution plans and other long-term benefits. Contributions charged to the 2011 consolidated income statement for the defined contribution plans were USD 337 million (2010: USD 269 million).

26. EQUITY-BASED PARTICIPATION PLANS OF ASSOCIATES

The expense recorded in the consolidated income statement spreads the cost of each grant equally over the vesting period. Assumptions are made concerning the forfeiture rate which is adjusted during the vesting period so that at the end of the vesting period there is only a charge for vested amounts. The expense related to all Novartis equity plans and Alcon, Inc., equity plans granted to associates prior to the merger in the 2011 consolidated income statement was USD 1 billion (2010: USD 841 million) resulting in a total carrying amount for liabilities arising from share-based payment transactions of USD 217 million (2010: USD 200 million).

Equity-based participation plans can be separated into the following plans.

NOVARTIS EQUITY PLAN "SELECT"

The equity plan "Select" is a global equity incentive plan under which all associates, including Executive Committee members, may annually be eligible for a grant, which is capped at 200% of target. The equity-based long-term incentive is subject to the achievement of predetermined business and individual performance objectives at grant. No awards are granted for performance ratings below a certain threshold.

The Equity Plan "Select" allows its participants to choose the form of their equity compensation in restricted shares (or, in some jurisdictions, restricted share units (RSUs), tradable share options, or a combination of both, with a vesting period of three years.

In some jurisdictions, RSUs are granted rather than shares. Each RSU is equivalent in value to one Novartis share and is converted into one share at the vesting date. RSUs do not carry any voting or dividend rights, except for the US where employees receive a dividend equivalent for the 2009 and 2010 grants during the vesting period. Each restricted share is entitled to voting rights and payment of dividends during the vesting period.

Tradable share options expire on their 10th anniversary from grant date. Each tradable share option granted to associates entitles the holder to purchase after vesting (and before the 10th anniversary from grant date) one Novartis share at a stated exercise price that equals the closing market price of the underlying share at the grant date (January 19, 2011).

If a participant leaves Novartis, for reasons other than retirement, disability or death, unvested shares, RSUs and share options are forfeited, unless determined otherwise by the Compensation Committee (for example, in connection with a reorganization or divestment).

NOVARTIS EQUITY PLAN "SELECT" OUTSIDE NORTH AMERICA

Directors, executives and other selected associates of Group companies (collectively, the "Participants") may receive equity awards. The vesting period for the plan is three years except Switzerland which had until 2010 a vesting period of two years that will be increased to three years as of the 2011 performance onwards.

The expense recorded in the 2011 consolidated income statement relating to both shares and share options under this plan amounted to USD 158 million (2010: USD 149 million). Participants in this plan were granted a total of 2.2 million units at CHF 54.70 (2010: 2.3 million units at CHF 55.85).

The following table shows the assumptions on which the valuation of share options granted during the period was based:

	Novartis Equity Plan "Select" outside North America	
	2011	2010
Valuation date	January 19, 2011	January 19, 2010
Expiration date	January 19, 2021	January 17, 2020
Closing share price on grant date	CHF 54.70	CHF 55.85
Exercise price	CHF 54.70	CHF 55.85
Implied bid volatility	14.90%	16.00%
Expected dividend yield	4.82%	4.74%
Interest rate	2.06%	2.29%
Market value of option at grant date	CHF 5.06	CHF 6.13

The following table shows the activity associated with the share options during the period. The weighted average prices in the table below are translated from Swiss Francs into USD at historical rates for the granted, sold, and forfeited or expired figures. The year-end prices are translated using the corresponding year-end rates.

	2011		2010	
	Options (millions)	Weighted average exercise price (USD)	Options (millions)	Weighted average exercise price (USD)
Options outstanding at January 1	**34.7**	**52.3**	**32.9**	**51.6**
Granted	5.7	57.0	9.9	54.5
Sold or exercised	– 3.9	46.4	– 6.0	52.4
Forfeited or expired	– 1.0	56.6	– 2.1	51.4
Outstanding at December 31	**35.5**	**53.5**	**34.7**	**52.3**
Exercisable at December 31	**22.2**	**52.4**	**18.2**	**53.6**

All share options were granted at an exercise price which was equal to the market price of the Group's shares at the grant date and between 2000 and 2003 was greater than the market price of the Group's shares at the grant date. The weighted average exercise price during the period the options were sold or exercised in 2011 was USD 46.4. The weighted average share price at the dates of exercise was USD 49.0.

The following table summarizes information about share options outstanding at December 31, 2011:

	Options outstanding		
Range of exercice prices (USD)	Number outstanding (millions)	Average remaining contractual life (years)	Weighted average exercise price (USD)
30–34	0.6	0.2	34.8
35–39			
40–44			
45–49	9.3	5.6	46.9
50–54	11.2	7.0	54.4
55–59	14.4	6.7	57.9
Total	**35.5**	**6.4**	**53.5**

NOVARTIS EQUITY PLAN "SELECT" FOR NORTH AMERICA

The plan provides for equity awards to North American based Directors, executives and other selected associates. The terms and conditions of the Novartis Equity Plan "Select" for North America are substantially equivalent to the Novartis Equity Plan "Select" outside North America. Share options in this plan have only been tradable since 2004.

The expense recorded in the 2011 consolidated income statement relating to both shares and share options under this plan amounted to USD 263 million (2010: USD 237 million). Participants in this plan were granted a total of 4.1 million units at USD 57.07 (2010: 3.5 million units at USD 53.70).

The following table shows the assumptions on which the valuation of share options granted during the period was based:

	Novartis Equity Plan "Select" for North America	
	2011	2010
Valuation date	January 19, 2011	January 19, 2010
Expiration date	January 19, 2021	January 17, 2020
Closing ADS price on grant date	USD 57.07	USD 53.70
Exercise price	USD 57.07	USD 53.70
Implied bid volatility	13.80%	14.60%
Expected dividend yield	4.83%	4.96%
Interest rate	3.50%	3.90%
Market value of option at grant date	USD 5.94	USD 6.47

The following table shows the activity associated with the share options during the period:

	2011		2010	
	ADS options (millions)	Weighted average exercise price (USD)	ADS options (millions)	Weighted average exercise price (USD)
Options outstanding at January 1	**60.0**	**51.1**	**59.3**	**50.2**
Granted	11.8	57.1	15.7	53.7
Sold or exercised	– 10.2	52.2	– 10.3	49.5
Forfeited or expired	– 3.1	51.6	– 4.7	51.7
Outstanding at December 31	**58.5**	**52.1**	**60.0**	**51.1**
Exercisable at December 31	**19.6**	**52.6**	**20.2**	**50.1**

All share options were granted at an exercise price which was equal to the market price of the American Depositary Shares (ADSs) at the grant date. The weighted average exercise price during the period the share options were sold or exercised in 2011 was USD 52.2. The weighted average share price at the dates of exercise was USD 59.4.

The following table summarizes information about ADS options outstanding at December 31, 2011:

	ADS options outstanding		
Range of exercice prices (USD)	Number outstanding (millions)	Average remaining contractual life (years)	Weighted average exercise price (USD)
35–39	2.5	0.9	36.5
40–44			
45–49	19.1	6.2	46.6
50–54	15.4	7.4	53.9
55–59	21.5	7.3	57.6
Total	**58.5**	**6.7**	**52.1**

LONG-TERM PERFORMANCE PLAN

The Long-Term Performance Plan (LTPP) is an equity plan for key executives designed to foster long-term commitment by aligning the incentives of key executives to the performance of Novartis. The LTPP is offered to selected executives, who are in key positions and have a significant impact on the long-term success of Novartis and is capped at 200% of target. The rewards are based on predetermined rolling three year global performance objectives focused on the Novartis Economic Value Added (NVA) measured annually. The NVA is calculated based on Group operating income adjusted for interest, taxes and cost of capital charge. The performance realization of a plan cycle is obtained right after the end of the third plan year by adding together the annual NVA realizations of all plan years of the plan cycle. The performance ratio for a plan cycle is obtained by dividing the performance realization for the plan cycle with the performance target for the plan cycle, expressing the result as a percentage. The LTPP only allows a payout when the actual NVA exceeds predetermined target thresholds.

At the beginning of the performance period, plan participants are allocated RSUs, which will be converted into Novartis shares after the performance period.

At the end of the three-year performance period, the Compensation Committee adjusts the number of RSUs earned based on actual performance. RSUs are converted into unrestricted Novartis shares without an additional vesting period. In the United States, awards may also be delivered in cash under the US deferred compensation plan.

The expense recorded in the 2011 income statement related to this plan amounted to USD 40 million (2010: USD 32 million). On January 19, 2011 a total of 0.4 million performance share units (2010: 0.4 million performance share units) were granted to 127 key executives participating in this plan.

SPECIAL SHARE AWARDS

Selected associates may exceptionally receive special awards of restricted shares or RSUs. These special Share Awards provide an opportunity to reward outstanding achievements or exceptional performance and aim at retaining key contributors. They are based on a formal internal selection process, in which the individual performance of each candidate is thoroughly assessed at several management levels. In addition, Special Share Awards may also be granted to attract special expertise and new talents into the organization. These grants are consistent with the Novartis' philosophy to attract, retain and motivate best in class talents around the world.

Restricted special awards generally have a five-year vesting period. If an associate leaves Novartis for reasons other than retirement, disability or death, unvested shares or RSUs are generally forfeited. Worldwide 597 associates at different levels in the organization were awarded restricted shares in 2011. The expense recorded for such special share awards in the 2011 income statement amounted to USD 27 million (2010: USD 33 million). During 2011, a total of 1.5 million restricted shares or RSUs (2010: 1.1 million

restricted shares or RSUs) were granted to executives and selected associates.

LEVERAGED SHARE SAVINGS PLANS

A number of associates in certain countries and certain key executives worldwide are encouraged to invest their Annual Incentive in a share savings plan, which is capped at 200% of target. Under the share savings plan, they will receive their annual incentive awards fully or partially in Novartis shares in lieu of cash. As a reward for their participation in the share savings plan, Novartis matches their investments in shares after a holding period of 3 or 5 years. As a rule, no shares are matched under these plans if an associate leaves Novartis prior to expiration of the holding period for reasons other than retirement, disability or death.

Novartis currently has three share savings plans:

- In Switzerland, the Employee Share Ownership Plan (ESOP) was available to 11 997 associates. Participants within this plan may choose to receive the incentive (i) 100% in shares, (ii) 50% in shares and 50% in cash or (iii) 100% in cash. After expiration of a three-year holding period of Novartis shares invested under ESOP, each participant will receive one free matching share for every two Novartis shares granted. A total of 5 454 associates chose to receive shares under the ESOP for their performance in 2010.
- In the United Kingdom, 2 790 associates can invest up to 5% of their monthly salary in shares (up to a maximum of GBP 125) and also may be invited to invest all or part of their net annual incentive in shares. Two invested shares are matched with one share with a holding period of three years. During 2011, 1 870 associates elected to participate in this plan.
- Worldwide 26 key executives were invited to participate in a Leveraged Share Savings Plan based on their performance in 2010. Instead of cash, their annual incentive was awarded in shares and subject to a holding period of five years. At the end of the holding period, Novartis will match the invested shares at a ratio of 1:1 (i.e. one share awarded for each invested share).

Associates may only participate in one of these plans in any given year.

The expense recorded in the 2011 income statement related to these plans amounted to USD 429 million (2010: USD 366 million). During 2011, a total of 5.4 million shares (2010: 5.8 million shares) were granted to participants of these plans.

SUMMARY OF NON-VESTED SHARE MOVEMENTS

The table below provides a summary of non-vested share movements (restricted shares, RSUs and ADSs) for all plans:

	2011		2010	
	Number of shares in millions	Fair value in USD millions	Number of shares in millions	Fair value in USD millions
Non-vested shares at January 1	**17.7**	**1015.7**	**15.7**	**938.7**
Granted	14.3	823.9	13.9	766.1
Vested	– 10.0	– 590.1	– 10.3	– 594.6
Forfeited	– 1.2	– 69.4	– 1.6	– 94.5
Non-vested shares at December 31	**20.8**	**1 180.1**	**17.7**	**1 015.7**

ALCON, INC., EQUITY PLANS GRANTED TO ASSOCIATES PRIOR TO THE MERGER

The expense recorded in the 2011 consolidated income statement relating to equity-based compensation awards granted to Alcon, Inc., associates prior to the merger on April 8, 2011 amounted to USD 98 million (August 25 to December 31, 2010: USD 22 million). Participants in those plans were granted 1.9 million restricted share units (RSUs) during 2011 (from August 25 to December 31, 2010: 0.7 million converted Novartis RSUs).

CHANGE OF CONTROL PROVISIONS

Upon the change of majority ownership in Alcon, Inc., from Nestlé to Novartis, Alcon equity-based compensation awards granted to associates prior to January 1, 2009 vested immediately. However, the vesting of similar awards granted after January 1, 2009 accelerates only if the respective participant's employment with Novartis subsidiaries is terminated without cause, or by the participant under certain circumstances, within six months preceding or during the two years following a change of control. At the completion of the merger of Alcon, Inc., into Novartis, all awards outstanding under the Alcon equity plans were converted to awards based upon Novartis shares as defined in the Merger Agreement.

SHARE OPTIONS AND SHARE-SETTLED APPRECIATION RIGHTS

Share options entitle the recipient to purchase Novartis shares at the closing market price of the former Alcon, Inc., share on the day of grant divided by the conversion factor of 3.0727.

Share-settled appreciation rights (SSAR) entitle the participant to receive, in the form of Novartis shares, the difference between the values of the former Alcon, Inc., share at the date of grant, converted into Novartis shares using the conversion factor of 3.0727, and the Novartis share price at the date of exercise. Share options and SSARs are exercisable upon satisfaction of the conditions set forth in the respective award agreement, generally three years following the date of grant.

The compensation expense for equity awards was calculated on a straight-line basis over the three-year vesting period of the applicable equity awards, with acceleration of the expense for individuals meeting the requirements for retirement and under the change of control provisions, as described above. There were no grants of share options or SSARs under these plans in 2011 and 2010.

The following table shows the activity associated with the converted Novartis share options and SSARs during 2011 and from August 25 to December 31, 2010:

	Number of options (millions)	Weighted average exercise price (USD)	Number of SSARs (millions)	Weighted average exercise price (USD)
Outstanding at August 25, 2010	**13.6**	**22.3**	**14.7**	**37.5**
Sold or exercised	– 3.9	22.9	– 3.0	42.8
Outstanding at December 31, 2010	**9.7**	**22.0**	**11.7**	**36.3**
Exercisable at December 31, 2010	**9.1**	**21.6**	**6.2**	**43.3**
Outstanding at January 1, 2011	**9.7**	**22.0**	**11.7**	**36.3**
Sold or exercised	– 5.2	20.7	– 3.3	41.8
Outstanding at December 31, 2011	**4.5**	**23.5**	**8.4**	**34.2**
Exercisable at December 31, 2011	**4.0**	**22.9**	**3.3**	**43.4**

RESTRICTED SHARE UNITS

Restricted Share Units (RSUs) entitle the recipient to receive a specified number of Novartis shares on the date of vesting. RSUs will vest and become transferable upon satisfaction of the conditions set forth in the restricted share unit award agreements, generally three years following the grant date. Holders of RSUs have no voting rights and receive dividend equivalents prior to vesting.

The fair value of each RSU was estimated at the closing market price on the day of grant. At the date of the merger on April 8, 2011, the awards were converted into Novartis RSUs at a conversion factor of 3.0727. The compensation expense is recognized over the required service period, generally three years following the day of grant.

Until the merger on April 8, 2011, participants were granted 1.9 million converted Novartis RSUs (from August 25 to December 31, 2010: 0.7 million converted Novartis RSUs). The fair value of those instruments amounted to USD 108 million. At December 31, 2011, there were 5.0 million Novartis RSUs outstanding with a fair value of USD 261 million.

27. RELATED PARTIES

GENENTECH/ROCHE

Novartis has two agreements with Genentech, Inc., USA, a subsidiary of Roche Holdings AG which is indirectly included in the consolidated financial statements using equity accounting since Novartis holds 33.3% of the outstanding voting shares of Roche.

LUCENTIS

Novartis has licensed the exclusive rights to develop and market *Lucentis* outside the US for indications related to diseases of the eye. As part of this agreement, Novartis paid Genentech/Roche an initial milestone and shared the cost for the subsequent development by making additional milestone payments upon the achievement of certain clinical development points and product approval. Novartis also pays royalties on the net sales of *Lucentis* products outside the US. *Lucentis* sales of USD 2.0 billion (2010: USD 1.5 billion) have been recognized by Novartis.

XOLAIR

In February 2004, Novartis Pharma AG, Genentech, Inc., and Tanox, Inc., finalized a three-party collaboration to govern the development and commercialization of certain anti-IgE antibodies including *Xolair* and TNX-901. Under this agreement, all three parties co-developed *Xolair*. On August 2, 2007, Genentech, Inc. completed the acquisition of Tanox, Inc. and has taken over its rights and obligations. Novartis and Genentech/Roche are co-promoting *Xolair* in the US where Genentech/Roche records all sales. Novartis records sales outside of the US.

Novartis markets *Xolair* and records all sales and related costs in Europe as well as co-promotion costs in the US. Genentech/Roche and Novartis share the resulting profits from sales in the US, Europe and other countries, according to agreed profit-sharing percentages. Novartis recognized total sales of *Xolair* of USD 478 million (2010: USD 369 million) including sales to Genentech/Roche for the US market.

The net expense for royalties, cost sharing and profit sharing arising out of the *Lucentis* and *Xolair* agreements with Genentech/Roche totaled USD 396 million (2010: USD 300 million).

Furthermore, Novartis has several patent license, supply and distribution agreements with Roche and several Novartis entities hold Roche bonds totaling USD 20 million (2010: USD 17 million).

IDENIX

Novartis Pharma AG entered into a collaboration agreement with Idenix in May 2003 relating to the worldwide development and commercialization of drug candidates and purchased approximately 54% of the common stock of Idenix. As Novartis had the ability to exercise control, Idenix was fully consolidated. In August 2009, Novartis opted not to purchase shares that were issued pursuant to an underwritten offering and waived and amended certain rights under the development and commercialization agreement. As a result of this, the Novartis shareholding was diluted from the pre-offering level of 53% to 47% and since September 1, 2009 Idenix has been accounted for according to the equity method. Novartis has a license agreement with Idenix for *Tyzeka/Sebivo* and may pay additional license fees and development expenses for drug candidates that Novartis may elect to license from Idenix. The sales of *Tyzeka/Sebivo* totaled USD 114 million in 2011 (2010: USD 95 million).

EXECUTIVE OFFICER AND NON-EXECUTIVE DIRECTOR COMPENSATION

During 2011, there were 12 Executive Committee members and Permanent Attendees ("Executive Officers"), including those who stepped down (14 members in 2010 also including those who stepped down).

The total compensation for members of the Executive Committee and the 11 Non-Executive Directors (12 in 2010) using IFRS 2 rules for accounting for equity-based compensation was as follows:

	Executive Officers		Non-Executive Directors		Total	
	2011 USD millions	2010 USD millions	**2011 USD millions**	2010 USD millions	**2011 USD millions**	2010 USD millions
Short-term benefits	13.7	14.8	23.9	17.7	37.6	32.5
Post-employment benefits	1.9	1.3	0.2	0.2	2.1	1.5
Termination benefits	5.1	7.9			5.1	7.9
Equity-based compensation	53.3	63.6	16.0		69.3	63.6
Total	**74.0**	**87.6**	**40.1**	**17.9**	**114.1**	**105.5**

The annual incentive award, which is fully included in equity-based compensation even when paid out in cash, is granted in January in the year following the reporting period.

The above table excludes amounts for any grants made to any of the current Executive Officers and non-Executive Directors by Alcon, Inc., prior to its merger into Novartis AG on April 8, 2011, since these were granted by this company's independent Compensation Committee.

The disclosures required by the Swiss Code of Obligations on Board and Executive compensation are shown in note 12 to the Novartis AG financial statements.

A non-executive director has options to acquire minor Group assets at fair market values.

28. COMMITMENTS AND CONTINGENCIES

LEASING COMMITMENTS

The Group has entered into various fixed term operational leases, mainly for cars and real estate. As of December 31, 2011 the Group's commitments with respect to these leases were as follows:

	2011 USD millions
2012	355
2013	270
2014	175
2015	124
2016	109
Thereafter	2 003
Total	**3 036**
Expense of current year	**412**

RESEARCH & DEVELOPMENT COMMITMENTS

The Group has entered into long-term research agreements with various institutions which provide for potential milestone payments and other payments by Novartis that may be capitalized. As of December 31, 2011 the Group's commitments to make payments under those agreements were as follows:

	Unconditional commitments 2011 USD millions	Potential milestone payments 2011 USD millions	Total 2011 USD millions
2012	105	282	387
2013	73	288	361
2014	53	377	430
2015	42	388	430
2016	39	172	211
Thereafter	31	1 146	1 177
Total	**343**	**2 653**	**2 996**

OTHER COMMITMENTS

The Novartis Group entered into various purchase commitments for services and materials as well as for equipment in the ordinary course of business. These commitments are generally entered into at current market prices and reflect normal business operations.

CONTINGENCIES

Group companies have to observe the laws, government orders and regulations of the country in which they operate.

The Group's potential environmental liability is assessed based on a risk assessment and investigation of the various sites identified by the Group as at risk for environmental exposure. The Group's future remediation expenses are affected by a number of uncertainties. These uncertainties include, but are not limited to, the method and extent of remediation, the percentage of material attributable to the Group at the remediation sites relative to that attributable to other parties, and the financial capabilities of the other potentially responsible parties.

A number of Group companies are currently involved in administrative proceedings, litigations and investigations arising out of the normal conduct of their business. These litigations include certain legal and product liability claims. Whilst provisions have been made for probable losses that management deems to be reasonable or appropriate there are uncertainties connected with these estimates. Note 20 contains a more extensive discussion of these matters.

In the opinion of management, however, the outcome of these actions will not materially affect the Group's financial position but could be material to the results of operations or cash flow in a given period.

29. PRINCIPAL CURRENCY TRANSLATION RATES

			2011 USD	2010 USD
Year-end exchange rates used for consolidated balance sheets:	1	CHF	1.064	1.063
	1	EUR	1.294	1.324
	1	GBP	1.543	1.552
	100	JPY	1.289	1.227

			2011 USD	2010 USD
Average of monthly exchange rates during the year used for consolidated income, other comprehensive income and cash flow statements:	1	CHF	1.130	0.961
	1	EUR	1.392	1.327
	1	GBP	1.603	1.546
	100	JPY	1.255	1.141

30. EVENTS SUBSEQUENT TO THE DECEMBER 31, 2011 BALANCE SHEET DATE

DIVIDEND PROPOSAL FOR 2011 AND APPROVAL OF THE GROUP'S 2011 CONSOLIDATED FINANCIAL STATEMENTS

On January 24, 2012, the Novartis AG Board of Directors proposed the acceptance of the 2011 consolidated financial statements of the Novartis Group for the approval by the Annual General Meeting on February 23, 2012. Furthermore, on January 19, 2012, the Board proposed a dividend of CHF 2.25 per share to be approved at the Annual General Meeting on February 23, 2012. If approved, total dividend payments would amount to approximately USD 5.8 billion.

US RESTRUCTURING

On January 13, 2012, Novartis announced a plan to restructure Novartis Pharmaceuticals (NPC) in the US. This will result in the reduction of approximately 1 960 positions and result in an exceptional charge of approximately USD 160 million to be recorded in the first quarter of 2012.

31. PRINCIPAL GROUP SUBSIDIARIES AND ASSOCIATED COMPANIES

As at December 31, 2011	Share/paid-in capital[1]	Equity interest %	Activities
Argentina			
Novartis Argentina S.A., Buenos Aires	ARS 231.3 m	100	◆▲
Alcon Laboratorios Argentina S.A., Buenos Aires	ARS 83.9 m	100	◆
Sandoz S.A., Buenos Aires	ARS 131.8 m	100	◆▼
Australia			
Novartis Australia Pty Ltd., North Ryde, NSW	AUD 11.0 m	100	■
Novartis Pharmaceuticals Australia Pty Ltd., North Ryde, NSW	AUD 3.8 m	100	◆▲
Alcon Laboratories (Australia) Pty Ltd., Frenchs Forest	AUD 2.6 m	100	◆
Sandoz Pty Ltd., North Ryde, NSW	AUD 11.6 m	100	◆
Novartis Consumer Health Australasia Pty Ltd., Melbourne, Victoria	AUD 7.6 m	100	◆▼
Novartis Animal Health Australasia Pty Ltd., North Ryde, NSW	AUD 3.0 m	100	◆▲
Austria			
Novartis Austria GmbH, Vienna	EUR 1.0 m	100	■
Novartis Pharma GmbH, Vienna	EUR 1.1 m	100	◆
Sandoz GmbH, Kundl	EUR 32.7 m	100	■◆▼▲
EBEWE Pharma Ges.m.b.H Nfg., Unterach am Attersee	EUR 1.0 m	100	◆▼▲
Novartis Animal Health GmbH, Kundl	EUR 37 000	100	◆
Bangladesh			
Novartis (Bangladesh) Limited, Dhaka	BDT 162.5 m	60	◆▼
Belgium			
N.V. Novartis Pharma S.A., Vilvoorde	EUR 7.1 m	100	◆
S.A. Alcon-Couvreur N.V., Puurs	EUR 362.1 m	100	◆▼
N.V. CIBA Vision Benelux S.A., Mechelen	EUR 62 000	100	◆
N.V. Sandoz S.A., Vilvoorde	EUR 19.2 m	100	◆
N.V. Novartis Consumer Health S.A., Vilvoorde	EUR 4.3 m	100	◆
Bermuda			
Triangle International Reinsurance Ltd., Hamilton	CHF 1.0 m	100	■
Novartis Securities Investment Ltd., Hamilton	CHF 30 000	100	■
Novartis International Pharmaceutical Ltd., Hamilton	CHF 20 000	100	■◆▼▲
Trinity River International Investments (Bermuda), Ltd., Hamilton	USD 12 000	100	■
Trinity River Insurance Co.Ltd., Hamilton	USD 370 000	100	■
Brazil			
Novartis Biociências S.A., São Paulo	BRL 255.8 m	100	◆▼
Alcon Laboratorios do Brasil Ltda., São Paulo	BRL 7.7 m	100	◆▼
Sandoz do Brasil Indústria Farmacêutica Ltda., Cambé	BRL 190.0 m	100	◆▼▲
Novartis Saúde Animal Ltda., São Paulo	BRL 50.7 m	100	◆▼
Canada			
Novartis Pharmaceuticals Canada Inc., Dorval/ Montreal	CAD 0[2]	100	◆▲
Alcon Canada Inc., Mississauga, Ontario	CAD 0[2]	100	◆
CIBA Vision Canada Inc., Mississauga, Ontario	CAD 1	100	◆▼
Sandoz Canada Inc., Boucherville, Quebec	CAD 76.8 m	100	◆▼▲
Novartis Consumer Health Canada Inc., Mississauga, Ontario	CAD 2	100	◆
Novartis Animal Health Canada Inc., Charlottetown, Prince Edward Island	CAD 2	100	◆▲
Chile			
Novartis Chile S.A., Santiago de Chile	CLP 2.0 bn	100	◆
Alcon Laboratorios Chile Limitada, Santiago de Chile	CLP 2.0 bn	100	◆
China			
Beijing Novartis Pharma Co., Ltd., Beijing	USD 30.0 m	100	◆▼
Novartis Pharmaceuticals (HK) Limited, Hong Kong	HKD 200	100	◆
China Novartis Institutes for BioMedical Research Co., Ltd., Shanghai	USD 108.0 m	100	▲
Suzhou Novartis Pharma Technology Co. Ltd., Changshu	USD 97.4 m	100	▼
Shanghai Novartis Trading Ltd., Shanghai	USD 2.45 m	100	◆
Alcon (China) Ophthalmic Product Co., Ltd., Beijing	USD 2.2 m	100	◆
Sandoz (China) Pharmaceutical Co., Ltd., Zhongshan	USD 22.0 m	100	◆▼
Novartis Vaccines and Diagnostics (HK) Ltd., Hong Kong	HKD 80.0 m	100	◆▼
Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd., Hangzhou	CNY 46.8 m	85	◆▼
Shanghai Novartis Animal Health Co., Ltd., Shanghai	CHF 21.5 m	87	◆▼
Colombia			
Novartis de Colombia S.A., Santafé de Bogotá	COP 7.9 bn	100	◆▼
Laboratorios Alcon de Colombia S.A., Bogotá	COP 20.9 m	100	◆

As at December 31, 2011	Share/paid-in capital[1]	Equity interest %	Activities
Croatia			
Sandoz d.o.o., Zagreb	HRK 25.6 m	100	◆
Czech Republic			
Novartis s.r.o., Prague	CZK 51.5 m	100	◆
Sandoz s.r.o., Prague	CZK 44.7 m	100	◆
Denmark			
Novartis Healthcare A/S, Copenhagen	DKK 14.0 m	100	◆
Sandoz A/S, Copenhagen	DKK 8.0 m	100	◆
Ecuador			
Novartis Ecuador S.A., Quito	USD 4.0 m	100	◆
Egypt			
Novartis Pharma S.A.E., Cairo	EGP 33.8 m	99	◆▼
Finland			
Novartis Finland Oy, Espoo	EUR 459 000	100	◆
France			
Novartis Groupe France S.A., Rueil-Malmaison	EUR 103.0 m	100	■
Novartis Pharma S.A.S., Rueil-Malmaison	EUR 43.4 m	100	◆▼▲
Laboratoires Alcon S.A., Rueil-Malmaison	EUR 12.6 m	100	◆▼
CIBA Vision S.A.S., Blagnac	EUR 1.8 m	100	◆
Sandoz S.A.S., Levallois-Perret	EUR 5.0 m	100	◆
Novartis Vaccines and Diagnostics S.A.S., Suresnes	EUR 1.5 m	100	◆
Novartis Santé Familiale S.A.S., Rueil-Malmaison	EUR 21.9 m	100	◆▼
Novartis Santé Animale S.A.S., Rueil-Malmaison	EUR 900 000	100	◆▼
Germany			
Novartis Deutschland GmbH, Wehr	EUR 155.5 m	100	■
Novartis Pharma GmbH, Nuremberg	EUR 25.6 m	100	◆▲
Novartis Pharma Produktions GmbH, Wehr	EUR 2.0 m	100	▼
Alcon Pharma GmbH, Freiburg	EUR 511 292	100	◆
WaveLight GmbH, Erlangen	EUR 6.6 m	100	◆
CIBA Vision GmbH, Grosswallstadt	EUR 15.4 m	100	◆▼▲
CIBA Vision Vertriebs GmbH, Grossostheim	EUR 2.6 m	100	◆
Sandoz International GmbH, Holzkirchen	EUR 100 000	100	■
Sandoz Pharmaceuticals GmbH, Holzkirchen	EUR 5.1 m	100	◆
Sandoz Industrial Products GmbH, Frankfurt a. M.	EUR 2.6 m	100	◆▼
1 A Pharma GmbH, Oberhaching	EUR 26 000	100	◆
Salutas Pharma GmbH, Barleben	EUR 42.1 m	100	◆▼
Hexal AG, Holzkirchen	EUR 93.7 m	100	■◆▼▲
Novartis Vaccines and Diagnostics GmbH, Marburg	EUR 5.0 m	100	◆▼▲
Novartis Vaccines Vertriebs GmbH, Marburg	EUR 25 564	100	◆
Novartis Consumer Health GmbH, Munich	EUR 14.6 m	100	◆▼▲
Novartis Tiergesundheit GmbH, Munich	EUR 256 000	100	◆
LTS Lohmann Therapie-Systeme AG, Andernach	EUR 31.2 m	43	■
Gibraltar			
Novista Insurance Limited, Gibraltar	CHF 130.0 m	100	■
Great Britain			
Novartis UK Limited, Frimley/Camberley	GBP 25.5 m	100	■
Novartis Pharmaceuticals UK Limited, Frimley/ Camberley	GBP 5.4 m	100	◆▼▲
Novartis Grimsby Limited, Frimley/Camberley	GBP 230 m	100	▼
Alcon Laboratories (UK) Limited, Hemel Hempstead	GBP 9.1 m	100	◆
CIBA Vision (UK) Limited, Southampton	GBP 550 000	100	◆
Sandoz Limited, Bordon	GBP 2.0 m	100	◆
Novartis Vaccines and Diagnostics Limited, Frimley/Camberley	GBP 100	100	◆▼
Novartis Consumer Health UK Limited, Horsham	GBP 25 000	100	◆▼
Novartis Animal Health UK Limited, Frimley/ Camberley	GBP 100 000	100	◆▲
Greece			
Novartis (Hellas) S.A.C.I., Metamorphosis/Athens	EUR 14.6 m	100	◆
Alcon Laboratories Hellas Commercial & Industrial S.A., Maroussi/Athens	EUR 4.7 m	100	◆
Hungary			
Novartis Hungary Healthcare Limited Liability Company, Budapest	HUF 545.6 m	100	◆
Sandoz Hungary Limited Liability Company, Budapest	HUF 883.0 m	100	◆
India			
Novartis India Limited, Mumbai	INR 159.8 m	76	◆▼
Novartis Healthcare Private Limited, Mumbai	INR 60.0 m	100	▲
Alcon Laboratories (India) Private Limited, Bangalore	INR 1.1 bn	100	◆
Sandoz Private Limited, Mumbai	INR 32.0 m	100	◆▼

31. PRINCIPAL GROUP SUBSIDIARIES AND ASSOCIATED COMPANIES (CONTINUED)

As at December 31, 2011	Share/paid-in capital[1]	Equity interest %	Activities
Indonesia			
PT Novartis Indonesia, Jakarta	IDR 7.7 bn	100	◆▼
PT CIBA Vision Batam, Batam	IDR 11.9 bn	100	▼
Ireland			
Novartis Ireland Limited, Dublin	EUR 25 000	100	◆
Novartis Ringaskiddy Limited, Ringaskiddy, County Cork	EUR 2.0 m	100	▼
Alcon Laboratories Ireland Limited, Cork	EUR 541 251	100	▼
Italy			
Novartis Farma S.p.A., Origgio	EUR 18.2 m	100	■◆▼▲
Alcon Italia S.p.A., Milan	EUR 1.3 m	100	◆
CIBA Vision S.r.l., Marcon	EUR 2.4 m	100	◆
Sandoz S.p.A., Origgio	EUR 679 900	100	◆
Sandoz Industrial Products S.p.A., Rovereto	EUR 2.6 m	100	▼
Novartis Vaccines and Diagnostics S.r.l., Siena	EUR 41.5 m	100	◆▼▲
Novartis Consumer Health S.p.A., Origgio	EUR 2.9 m	100	◆
Japan			
Novartis Holding Japan K.K., Tokyo	JPY 10.0 m	100	■
Novartis Pharma K.K., Tokyo	JPY 6.0 bn	100	◆▲
Alcon Japan Ltd., Tokyo	JPY 500.0 m	100	◆
CIBA Vision K.K., Tokyo	JPY 100.0 m	100	◆
Sandoz K.K., Tokyo	JPY 100.0 m	100	◆▼▲
Novartis Animal Health K.K., Tokyo	JPY 50.0 m	100	◆▲
Luxembourg			
Novartis Investments S.à r.l., Luxembourg City	USD 2.6 bn	100	■
Novartis Finance S.A., Luxembourg City	USD 100 000	100	■
Malaysia			
Novartis Corporation (Malaysia) Sdn. Bhd., Kuala Lumpur	MYR 3.3 m	100	◆
CIBA Vision Johor Sdn. Bhd., Gelang Patah	MYR 5.0 m	100	▼
Mexico			
Novartis Farmacéutica, S.A. de C.V., Mexico City	MXN 205.0 m	100	◆▼
Alcon Laboratorios, S.A. de C.V., Mexico City	MXN 5.9 m	100	◆▼
Sandoz S.A. de C.V., Mexico City	MXN 468.2 m	100	◆▼
Netherlands			
Novartis Netherlands B.V., Arnhem	EUR 1.4 m	100	■
Novartis Pharma B.V., Arnhem	EUR 4.5 m	100	◆
Alcon Nederland B.V., Gorinchem	EUR 18 151	100	◆
Sandoz B.V., Almere	EUR 907 570	100	◆▼
Novartis Consumer Health B.V., Breda	EUR 23 830	100	◆▼
New Zealand			
Novartis New Zealand Ltd., Auckland	NZD 820 000	100	◆
Norway			
Novartis Norge AS, Oslo	NOK 1.5 m	100	◆
Pakistan			
Novartis Pharma (Pakistan) Limited, Karachi	PKR 24.8 m	99	◆▼
Panama			
Novartis Pharma (Logistics), Inc., Panama City	USD 10 000	100	◆
Peru			
Novartis Biosciences Peru S.A., Lima	PEN 6.1 m	100	◆
Philippines			
Novartis Healthcare Philippines, Inc., Makati/Manila	PHP 298.8 m	100	◆
Poland			
Novartis Poland Sp. z o.o., Warszawa	PLN 44.2 m	100	◆
Alcon Polska Sp. z o.o., Warszawa	PLN 750 000	100	◆
Sandoz Polska Sp. z o.o., Warszawa	PLN 25.6 m	100	◆
Lek S.A., Strykow	PLN 11.4 m	100	◆▼
Portugal			
Novartis Portugal SGPS Lda., Sintra	EUR 500 000	100	■
Novartis Farma-Produtos Farmacêuticos S.A., Sintra	EUR 2.4 m	100	◆
Alcon Portugal-Produtos e Equipamentos Oftalmologicos Lda., Paco d'Arcos	EUR 4.1 m	100	◆
Sandoz Farmaceutica Lda., Sintra	EUR 5.0 m	100	◆
Novartis Consumer Health-Produtos Farmacêuticos e Nutrição Lda., Lisbon	EUR 100 000	100	◆
Puerto Rico			
Ex-Lax, Inc., Humacao	USD 10 000	100	▼
Alcon (Puerto Rico) Inc., Catano	USD 100	100	◆
CIBA Vision Puerto Rico, Inc., Cidra	USD 1 000	100	▼

As at December 31, 2011	Share/paid-in capital[1]	Equity interest %	Activities
Romania			
Sandoz S.R.L., Targu-Mures	RON 105.2 m	100	◆▼
Russian Federation			
Novartis Pharma LLC, Moscow	RUR 20.0 m	100	◆
Alcon Farmacevtika LLC, Moscow	RUR 44.1 m	100	◆
ZAO Sandoz, Moscow	RUR 57.4 m	100	◆
Novartis Neva LLC, St. Petersburg	RUR 250.0 m	100	▼
Novartis Consumer Health LLC, Moscow	RUR 80.0 m	100	◆
Saudi Arabia			
Saudi Pharmaceutical Distribution Co. Ltd., Riyadh	SAR 26.8 m	75	◆
Singapore			
Novartis (Singapore) Pte Ltd, Singapore	SGD 100 000	100	◆
Novartis Singapore Pharmaceutical Manufacturing Pte Ltd., Singapore	SGD 45.0 m	100	▼
Novartis Asia Pacific Pharmaceuticals Pte Ltd., Singapore	SGD 1.0 m	100	◆
Novartis Institute for Tropical Diseases Pte Ltd., Singapore	SGD 2 004	100	▲
Alcon Singapore Manufacturing Pte Ltd., Singapore	SGD 101 000	100	▼
CIBA Vision (Singapore) Pte Ltd, Singapore	SGD 400 000	100	◆
CIBA Vision Asian Manufacturing and Logistics Pte Ltd., Singapore	SGD 1.0 m	100	▼
Slovakia			
Novartis Slovakia s.r.o., Bratislava	EUR 2.0 m	100	◆
Slovenia			
Lek Pharmaceuticals d.d., Ljubljana	EUR 48.4 m	100	■◆▼▲
Sandoz Pharmaceuticals d.d., Ljubljana	EUR 1.5 m	100	◆
South Africa			
Novartis South Africa (Pty) Ltd., Kempton Park	ZAR 86.3 m	100	◆
Alcon Laboratories (South Africa) (Pty) Ltd., Bryanston, Gauteng	ZAR 201 820	100	◆
Sandoz South Africa (Pty) Ltd, Kempton Park	ZAR 3.0 m	100	◆▼
South Korea			
Novartis Korea Ltd., Seoul	KRW 24.5 bn	99	◆
Alcon Korea Ltd, Seoul	KRW 33.8 bn	100	◆
Spain			
Novartis Farmacéutica, S.A., Barcelona	EUR 63.0 m	100	■◆▼
Alcon Cusi S.A., El Masnou	EUR 11.6 m	100	◆▼
CIBA Vision, S.A., Barcelona	EUR 1.4 m	100	◆
Sandoz Farmacéutica, S.A., Madrid	EUR 270 450	100	◆
Sandoz Industrial Products, S.A., Les Franqueses del Vallés/Barcelona	EUR 9.3 m	100	◆▼▲
Bexal Farmacéutica, S.A., Madrid	EUR 1.0 m	100	◆
Novartis Vaccines and Diagnostics, S.L., Barcelona	EUR 675 450	100	◆
Novartis Consumer Health, S.A., Barcelona	EUR 876 919	100	◆
Sweden			
Novartis Sverige Participations AB, Täby/Stockholm	SEK 1.0 m	100	■
Novartis Sverige AB, Täby/Stockholm	SEK 5.0 m	100	◆
Alcon Sverige AB, Bromma	SEK 100 000	100	◆
CIBA Vision Nordic AB, Askim/Göteborg	SEK 2.5 m	100	◆
Switzerland			
Novartis International AG, Basel	CHF 10.0 m	100	■
Novartis Holding AG, Basel	CHF 100.2 m	100	■
Novartis Research Foundation, Basel	CHF 29.3 m	100	■
Novartis Foundation for Management Development, Basel	CHF 100 000	100	■
Novartis Foundation for Employee Participation, Basel	CHF 100 000	100	■
Novartis Sanierungsstiftung, Basel	CHF 2.0 m	100	■
Novartis Pharma AG, Basel	CHF 350.0 m	100	■◆▼▲
Novartis Pharma Services AG, Basel	CHF 20.0 m	100	◆
Novartis Pharma Schweizerhalle AG, Muttenz	CHF 18.9 m	100	▼
Novartis Pharma Stein AG, Stein	CHF 251 000	100	▼▲
Novartis Pharma Schweiz AG, Bern	CHF 5.0 m	100	◆▲
Alcon Switzerland SA, Hünenberg	CHF 100 000	100	◆
Alcon Pharmaceuticals Ltd., Fribourg	CHF 200 000	100	■◆
ESBATech, an Alcon Biomedical Research Unit GmbH, Schlieren	CHF 14.0 m	100	▲
CIBA Vision AG, Embrach	CHF 300 000	100	■◆
Sandoz AG, Basel	CHF 5.0 m	100	■◆▲
Sandoz Pharmaceuticals AG, Steinhausen	CHF 100 000	100	◆
Novartis Vaccines and Diagnostics AG, Basel	CHF 800 000	100	■▲

As at December 31, 2011	Share/paid-in capital[1]	Equity interest %	Activities
Switzerland (continued)			
Novartis Vaccines and Diagnostics Services AG, Basel	CHF 100 000	100	■▼
Novartis Consumer Health S.A., Nyon	CHF 30.0 m	100	■◆▼▲
Novartis Consumer Health Schweiz AG, Bern	CHF 250 000	100	◆
Novartis Animal Health AG, Basel	CHF 101 000	100	■◆▼▲
Novartis Centre de Recherche Santé Animale S.A., St. Aubin	CHF 250 000	100	▲
Roche Holding AG, Basel	CHF 160.0 m	33/6[3]	■
Taiwan			
Novartis (Taiwan) Co., Ltd., Taipei	TWD 170.0 m	100	◆▼
Thailand			
Novartis (Thailand) Limited, Bangkok	THB 230.0 m	100	◆
Alcon Laboratories (Thailand) Ltd., Bangkok	THB 2.1 m	100	◆
Turkey			
Novartis Saglik, Gida ve Tarim Ürünleri Sanayi ve Ticaret A.S., Istanbul	TRY 98.0 m	100	◆▼
Alcon Laboratuvarlari Ticaret A.S., Istanbul	TRY 25.2 m	100	◆
Sandoz Ilaç Sanayi ve Ticaret A.S., Istanbul	TRY 120.0 m	100	◆▼
USA			
Novartis Corporation, East Hanover, NJ	USD 72.2 m	100	■
Novartis Finance Corporation, New York, NY	USD 1.7 bn	100	■
Novartis Capital Corporation, New York, NY	USD 1	100	■
Novartis Pharmaceuticals Corporation, East Hanover, NJ	USD 5.2 m	100	◆▼▲
Novartis Institutes for BioMedical Research, Inc., Cambridge, MA	USD 1	100	▲
Novartis Institute for Functional Genomics, Inc., San Diego, CA	USD 21 000	100	▲
Genoptix, Inc., Carlsbad, CA	USD 1	100	◆▲
Alcon Laboratories, Inc., Wilmington, DE	USD 1 000	100	■◆▼
Alcon Refractive Horizons, LLC, Wilmington, DE	USD 10	100	▼
Alcon Research, Ltd., Wilmington, DE	USD 10	100	▼▲
Alcon LenSx, Inc., Wilmington, DE	USD 100	100	▼
CIBA Vision Corporation, Duluth, GA	USD 301.3 m	100	■◆▼▲
Sandoz Inc., Princeton, NJ	USD 25 000	100	◆▼▲

As at December 31, 2011	Share/paid-in capital[1]	Equity interest %	Activities
USA (continued)			
Eon Labs, Inc., Princeton, NJ	USD 1	100	◆▼
Falcon Pharmaceuticals, Ltd., Wilmington, DE	USD 10	100	◆
Novartis Vaccines and Diagnostics, Inc., Cambridge, MA	USD 3	100	■◆▼▲
Novartis Consumer Health, Inc., Parsippany, NJ	USD 0[2]	100	◆▼▲
Novartis Animal Health US, Inc., Greensboro, NC	USD 100	100	◆▼▲
Idenix Pharmaceuticals, Inc., Cambridge, MA	USD 72 863	31	■
Venezuela			
Novartis de Venezuela, S.A., Caracas	VEF 1.4 m	100	◆
Alcon Pharmaceutical, C.A., Caracas	VEF 5.5 m	100	◆

In addition, the Group is represented by subsidiaries, associated companies or joint ventures in the following countries: Algeria, Bosnia/Herzegovina, Bulgaria, Cayman Islands, Costa Rica, Dominican Republic, Guatemala, the Former Yugoslav Republic of Macedonia, Morocco, Ukraine and Uruguay.

Equity interest % – above 50% and up to 100% of the voting rights – fully consolidated
– above 20% and up to 50% of the voting rights – investment in associated company – equity method accounting

[1] Share/paid-in capital may not reflect the taxable share/paid-in capital amount and does not include any paid-in surplus.
[2] shares without par value
[3] Approximately 33% of voting shares; approximately 6% of total net income and equity attributable to Novartis
m = million; bn = billion

The following describe the various types of entities within the Group:
■ **Holding/Finance:** This entity is a holding company and/or performs finance functions for the Group.
◆ Sales: This entity performs sales and marketing activities for the Group.
▼ **Production:** This entity performs manufacturing and/or production activities for the Group.
▲ **Research:** This entity performs research and development activities for the Group.

32. RISK ASSESSMENT DISCLOSURES REQUIRED BY SWISS LAW

The Risk Committee of the Board ensures the Group has implemented an appropriate and effective risk management system and process. It reviews with management and internal audit the identification, prioritization and management of the risks, the accountabilities and roles of the functions involved with risk management, the risk portfolio and the related actions implemented by management. The Risk Committee informs the Board of Directors on a periodic basis.

The Corporate Risk Management function coordinates and aligns the risk management processes, and reports to the Risk Committee on a regular basis on risk assessment and risk management. Organizational and process measures have been designed to identify and mitigate risks at an early stage. Organizationally, the responsibility for risk assessment and management is allocated to the Divisions, with specialized Corporate Functions such as Financial Reporting & Accounting, Treasury, Group Quality Operations, Corporate Health, Safety and Environment, and Business Continuity providing support and controlling the effectiveness of the risk management by the Divisions.

Financial risk management is described in more detail in Note 16 to the Group's consolidated financial statements.

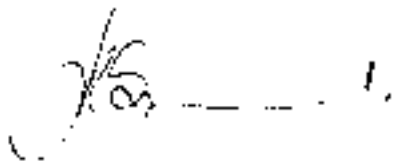
REPORT OF NOVARTIS MANAGEMENT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The Board of Directors and management of the Group are responsible for establishing and maintaining adequate internal control over financial reporting. The Novartis Group's internal control system was designed to provide reasonable assurance to the Novartis Group's management and Board of Directors regarding the reliability of financial reporting and the preparation and fair presentation of its published consolidated financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Novartis Group management assessed the effectiveness of the Group's internal control over financial reporting as of December 31, 2011. In making this assessment, it used the criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on its assessment, management has concluded that, as of December 31, 2011, the Novartis Group's internal control over financial reporting was effective based on those criteria.

PricewaterhouseCoopers AG, Switzerland, an independent registered public accounting firm, has issued an opinion on the effectiveness of the Group's internal control over financial reporting which is included in this financial report on the following pages 260 and 261.



Joseph Jimenez
Chief Executive Officer

Jonathan Symonds
Chief Financial Officer

Basel, January 24, 2012

REPORT OF THE STATUTORY AUDITOR ON THE CONSOLIDATED FINANCIAL STATEMENTS OF NOVARTIS AG AND INTERNAL CONTROL OVER FINANCIAL REPORTING

TO THE GENERAL MEETING OF NOVARTIS AG, BASEL

REPORT OF THE STATUTORY AUDITOR ON THE CONSOLIDATED FINANCIAL STATEMENTS OF NOVARTIS AG

As statutory auditor, we have audited the consolidated financial statements of Novartis AG and its consolidated subsidiaries ("Novartis Group"), which comprise the consolidated income statements, consolidated statements of comprehensive income, consolidated statements of changes in equity, consolidated balance sheets, consolidated cash flow statements and notes (pages 190 to 258) for the year ended December 31, 2011.

Board of Directors' Responsibility

The Board of Directors is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) and the requirements of Swiss law. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with Swiss law, Swiss Auditing Standards, International Standards on Auditing and the standards of the Public Company Accounting Oversight Board of the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements for the year ended December 31, 2011 present fairly, in all material respects, the financial position, the results of operations and the cash flows in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board and comply with Swiss law.

REPORT ON OTHER LEGAL REQUIREMENTS

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 728 CO and article 11 AOA) and that there are no circumstances incompatible with our independence.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

REPORT ON THE EFFECTIVENESS OF INTERNAL CONTROL OVER FINANCIAL REPORTING

We have also audited the effectiveness of Novartis Group's internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

The Board of Directors and management of Novartis Group are responsible for maintaining effective internal control over financial reporting and management is responsible for the assessment of the effectiveness of internal control over financial reporting included in the accompanying *Report of Novartis Management on Internal Control Over Financial Reporting* in this financial report on page 259. Our responsibility is to express an opinion on the effectiveness of Novartis Group's internal control over financial reporting based on our integrated audit.

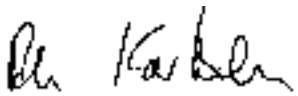
We conducted our audit of internal control over financial reporting in accordance with the standards of the Public Company Accounting Oversight Board of the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also includes performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the applicable accounting standards. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with the applicable accounting standards, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Novartis Group maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control – Integrated Framework* issued by the COSO.

PricewaterhouseCoopers AG



Peter M. Kartscher
Audit expert
Auditor in charge

Michael P. Nelligan
Global relationship partner

Basel, January 24, 2012

INCOME STATEMENTS

(For the years ended December 31, 2011 and 2010)

	Note	2011 CHF millions	2010 CHF millions
Income			
Income from financial assets		5 284	6 472
Gain from disposal of intangible assets		356	85
License fees		1 419	1 476
Other income		4	4
Total income		**7 063**	**8 037**
Expenses			
Financial expense		– 326	– 782
Administrative expenses		– 21	– 21
Amortization of intangible assets	3	– 1 153	– 15
Other expenses		– 69	– 102
Taxes		– 123	– 89
Total expenses		**– 1 692**	**– 1 009**
Net income		**5 371**	**7 028**

The notes form an integral part of these unconsolidated financial statements.

BALANCE SHEETS (PRIOR TO PROFIT APPROPRIATION)
(At December 31, 2011 and 2010)

	Note	2011 CHF millions	2010 CHF millions
Assets			
Non-current assets			
Goodwill and other intangible assets	3	21 407	176
Financial assets-subsidiaries and associated companies	4	20 881	50 419
Total non-current assets		**42 288**	**50 595**
Current assets			
Receivables			
– subsidiaries		9 428	2 992
– others		46	60
Marketable securities	5	2 183	57
Total current assets		**11 657**	**3 109**
Total assets		**53 945**	**53 704**
Equity and liabilities			
Equity			
Total share capital	6	**1 373**	**1 319**
Reserves			
Legal reserves	7		
– General reserve		320	320
– Capital contribution reserve		198	
– Reserve for treasury shares		5 744	3 374
Free reserves	8	39 271	40 065
Total reserves		**45 533**	**43 759**
Unappropriated earnings			
Net income of the year		5 371	7 028
Total unappropriated earnings		**5 371**	**7 028**
Total equity		**52 277**	**52 106**
Liabilities			
Bonds	9	794	792
Provisions		534	519
Accounts payable and accrued liabilities			
– subsidiaries		116	22
– others		224	265
Total liabilities		**1 668**	**1 598**
Total equity and liabilities		**53 945**	**53 704**

The notes form an integral part of these unconsolidated financial statements.

1. INTRODUCTION

The financial statements of Novartis AG comply with the requirements of the Swiss law for companies, the Code of Obligations (SCO).

2. ACCOUNTING POLICIES

EXCHANGE RATE DIFFERENCES

Current assets and current liabilities denominated in foreign currencies are converted at year end exchange rates. Realized exchange gains and losses as well as all unrealized exchange losses arising from these as well as those from business transactions are recorded in the income statement.

GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill and other intangible assets are capitalized and amortized over a period of between five and twenty years. Goodwill and other intangible assets are reviewed for impairment on a yearly basis. If necessary an impairment loss is recognized.

FINANCIAL ASSETS

These are valued at acquisition cost less adjustments for foreign currency losses and any other impairment of value.

MARKETABLE SECURITIES

These are valued at the lower of cost and market value.

BONDS

These are valued on an amortized cost basis such that additional interest is accrued over the duration of the bonds so that at maturity the balance sheet amount will equal the amount that is due to be paid.

PROVISIONS

Provisions are made to cover general business risks of the Group.

3. GOODWILL AND OTHER INTANGIBLE ASSETS

At the Extraordinary General Meeting (EGM) on April 8, 2011 Novartis AG shareholders approved the retrospective merger as of January 1, 2011 of Novartis AG with Alcon, Inc. which was a Swiss company. Based on the EGM approval and on the merger agreement, Alcon, Inc. assets and liabilities have been integrated into Novartis AG at book value.

Goodwill	2011 CHF millions	2010 CHF millions
Cost		
January 1		
Arising on Alcon, Inc. merger with Novartis AG	39 101	
Disposal as a result of a Novartis Group internal legal company reorganization	– 16 717	
December 31	**22 384**	
Accumulated amortization		
January 1		
Amortization charges	– 1 140	
December 31	**– 1 140**	
Net book value at December 31	**21 244**	
Other intangible assets		
Cost		
January 1 and December 31	**242**	242
Accumulated amortization		
January 1	– 66	– 51
Amortization charges	– 13	– 15
December 31	**– 79**	– 66
Net book value at December 31	**163**	**176**
Goodwill and other intangible assets		
Net book value at December 31	**21 407**	**176**

4. FINANCIAL ASSETS

Included in financial assets are CHF 14 412 million (2010: CHF 50 135 million) of investments in subsidiaries and associated companies and CHF 6 469 million (2010: CHF 284 million) of loans to subsidiaries.

The principal direct and indirect subsidiaries and other holdings of Novartis AG are shown in note 31 to the Group's consolidated financial statements.

5. MARKETABLE SECURITIES

Included in marketable securities are Novartis AG treasury shares with a net book value of CHF 2 108 million (2010: CHF 54 million) (see notes 6 and 7 below). This position includes time deposits of CHF 72 million (2010: CHF nil) to cover a guarantee and so it is restricted in its use.

6. SHARE CAPITAL

	Number of shares				
	Dec 31, 2009	Movement in year	Dec 31, 2010	Movement in year	Dec 31, 2011
Total Novartis AG shares	**2 637 623 000**		**2 637 623 000**	**108 000 000**	**2 745 623 000**
Treasury shares					
Treasury shares held by Novartis AG	– 107 988 000		– 107 988 000	17 250 542	– 90 737 458
Treasury shares held by subsidiaries	– 67 374 159	8 480 322	– 58 893 837	– 8 541 945	– 67 435 782
Total treasury shares	**– 175 362 159**	**8 480 322**	**– 166 881 837**	**8 708 597**	**– 158 173 240**

The Novartis AG share capital consists of registered shares with a nominal value of CHF 0.50 each.

The number of issued shares increased by 108 million during the year to 2 745.6 million at December 31, 2011 as a result of shares exchanged for acquiring the remaining outstanding interests in Alcon Inc. approved at the Extraordinary General Meeting on April 8, 2011. This increased the amount of the issued share capital by CHF 54.0 million to CHF 1 372.8 million at December 31, 2011.

During 2010 the Novartis AG share capital was unchanged.

Treasury share purchases during 2011 totaled 60.1 million (2010: 0.7 million) with an average purchase price of CHF 52 (2010: CHF 60), treasury share sales totaled 5.3 million (2010: 2.9 million) with an average sale price of CHF 51 (2010: CHF 56), share-based compensation transactions totaled 6.8 million shares (2010: 6.3 million shares) respectively and treasury shares used for the Alcon merger totaled 164.7 million (108.0 million shares issued on April 8, 2011 plus 56.7 million shares already held as treasury shares).

The number of treasury shares held by the Company and subsidiaries meet the definitions and requirements of Art. 659b SCO.

Out of the 158 173 240 treasury shares held at December 31, 2011, 146 273 240 are non-dividend bearing with the balance held for share-based compensation and being dividend bearing. It should be noted that the Novartis Group's consolidated financial statements comply with IFRS. This requires consolidation of entities, mainly foundations, which do not qualify as subsidiaries in the sense of Article 659b SCO.

7. LEGAL RESERVES

GENERAL RESERVE

	2011 CHF millions	2010 CHF millions
January 1 and December 31	**320**	**320**

CAPITAL CONTRIBUTION RESERVE

	2011 CHF millions
January 1	
Created as a result of Alcon, Inc. merger with Novartis AG	198
December 31	**198**

RESERVE FOR TREASURY SHARES HELD BY THE GROUP

	2011 CHF millions	2010 CHF millions
January 1	**3 374**	**3 872**
Transfer from/to free reserves	2 370	– 498
December 31	**5 744**	**3 374**

The general reserve must be accumulated until it is at least 20% of the share capital of Novartis AG in order to comply with the SCO.

Novartis AG has met the legal requirements for legal reserves under Articles 659 et. seq. and 663b.10 SCO for the treasury shares detailed in note 5.

8. FREE RESERVES

	2011 CHF millions	2010 CHF millions
January 1	**40 065**	**31 274**
Transfer from unappropriated earnings	1 576	8 293
Transfer to/from reserve for treasury shares	– 2 370	498
December 31	**39 271**	**40 065**

9. CHF 800 MILLION BONDS 3.625% 2008/2015

On June 26, 2008 Novartis AG issued CHF 800 million of bonds bearing interest at 3.625% per annum and due on June 26, 2015. The bonds were issued at 100.35% and proceeds received after deducting related costs amounted to CHF 787.9 million. The bonds are valued on an amortized cost basis.

10. CONTINGENT LIABILITIES

	Outstanding liabilities Dec 31, 2011 CHF millions	Outstanding liabilities Dec 31, 2010 CHF millions
Guarantees in favor of subsidiaries to cover capital and interest of bonds and commercial paper program – total maximum amount CHF 24 486 million (2010: CHF 24 353 million)	13 950	16 650
Other guarantees in favor of subsidiaries, associated companies and others – total maximum amount CHF 2 989 million (2010: CHF 2 643 million)	1 711	1 101
Total	**15 661**	**17 751**

11. REGISTRATION, VOTING RESTRICTIONS AND MAJOR SHAREHOLDERS

The Company's Articles of Incorporation state that no person or entity shall be registered with the right to vote for more than 2% of the share capital as set forth in the Commercial Register. In particular cases the Board of Directors may allow exemptions from the limitation for registration in the share register.

According to the share register, shareholders owning 2% or more of the Company's capital at December 31, excluding Novartis AG together with Novartis subsidiaries holding treasury shares, are as follows:

	% holding of share capital December 31, 2011	% holding of share capital December 31, 2010
Novartis Foundation for Employee Participation, Basel, Switzerland	4.1	4.3
Emasan AG, Basel, Switzerland	3.2	3.3

In addition:
Shareholders registered as nominees:
– JPMorgan Chase Bank, New York, US, holds 10.9% (2010: 10.7%)
– Nortrust Nominees, London, GB, holds 3.2% (2010: 2.8%)
– Mellon Bank, Everett, Massachusetts, US, holds 3.0% (2010: 2.9%)

Shareholder acting as American Depositary Share (ADS) depositary:
– JPMorgan Chase Bank, New York, US, holds 11.0% (2010: 9.6%)

Shareholder according to a disclosure notification filed with Novartis AG and the SIX Swiss Exchange:
– Capital Group Companies, Inc., Los Angeles, US, holds between 3% and 5%.

12. BOARD AND EXECUTIVE COMPENSATION DISCLOSURES

Novartis AG's financial statements have been prepared in accordance with the requirements of Swiss company law, the Swiss Code of Obligations (SCO). This note therefore differs in certain significant respects from compensation disclosures in note 27 to the Group's consolidated financial statements, which have been prepared in accordance with International Financial Reporting Standards (IFRS), mainly due to different expense recognition rules being applied.

12.1) COMPENSATION OF BOARD MEMBERS

GENERAL PRINCIPLES

The compensation of the Chairman is based on a contract, which provides for Dr. Daniel Vasella a fixed remuneration of CHF 12.2 million, indexed to the average compensation increase for associates based in Switzerland. One third of his total compensation is paid out in monthly cash installments; the remaining two-thirds are in the form of unrestricted Novartis shares that are granted to him each year at the closing market price of the underlying share at the end of the day at grant date, in 2011 on January 19, 2011. Following his term as Chairman, Dr. Vasella agreed to continue to make available his know-how to Novartis and to refrain from activities that compete with any business of Novartis for a multi-year period. Dr. Vasella will receive fair market compensation in return for his services and for complying with the restriction not to compete. Dr. Vasella carries forward tradable options, shares and benefits (including pension) as a result of his 14-year tenure as the CEO of Novartis. In his current capacity he receives no variable compensation, tradable options or equity other than the shares that are part of his retainer as Chairman.

The other members of the Board of Directors receive an annual fixed Board membership fee and additional fees for committee chairmanships, committee memberships, and other functions to compensate for their increased responsibilities and engagements. They do not receive additional fees for attending meetings. With the exception of the Chairman, the members of the Board of Directors can choose to receive their fees in cash, shares, or a combination of both and they receive neither share options nor pension benefits.

The Board of Directors determines the compensation of the other Board members each year, based on a proposal by the Compensation Committee.

The fee rates for Board membership and functional roles of other members of the Board of Directors are as follows:

BOARD MEMBER ANNUAL FEE RATES (EXCL. CHAIRMAN)

	Annual fee (CHF)
Board membership	350 000
Vice Chairman	350 000
Board Committee chairmanship	10 000
Chairman's Committee membership	150 000
Audit and Compliance Committee membership	100 000
Risk Committee membership	50 000
Compensation Committee membership	50 000
Corporate Governance and Nomination Committee membership	50 000
Delegated board membership[1]	125 000

[1] The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD). The Board of Directors has delegated both Rolf M. Zinkernagel and William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

COMPENSATION IN 2011 AND 2010

The following compensation tables disclose the compensation granted to Board members in 2011 with comparatives to 2010.

BOARD MEMBER COMPENSATION IN 2011 (MARKET VALUE)[1]

	Board membership	Vice Chairman	Chairman's Committee	Audit and Compliance Committee	Risk Committee	Compensation Committee	Corporate Governance and Nomination Committee	Delegated board membership	Annual cash compensation (CHF) (A)	Shares (Market value) (CHF) (B)[2]	Shares (Number)	Other (CHF) (C)	Total (CHF) (A)+(B)+(C)
Daniel Vasella	Chair		Chair	•[3]	•[3]	•[3]	•[3]		4 060 004	8 786 735[4]	160 635[4]	654 207[5]	13 500 946[7]
Ulrich Lehner	•	•	•	•	•	•	Chair		1 110 000	–	–	62 650[6]	1 172 650
William Brody[8]	•					•		•	229 688	295 325	5 399	–	525 013
Srikant Datar	•		•	Chair	•	•			550 250	159 779	2 921	–	710 029
Ann Fudge	•				•		•		450 000	–	–	–	450 000
Pierre Landolt[9]	•						•		106 000	294 013	5 375	24 177[6]	424 190
Enrico Vanni	•			•		•			425 000	75 048	1 372	29 404[6]	529 452[7]
Andreas von Planta	•			•	Chair		•		448 000	112 026	2 048	32 685[6]	592 711
Wendelin Wiedeking	•			•	•				132 500	367 529	6 719	30 965[6]	530 994
Marjorie M.T. Yang	•					Chair			410 000	–	–	24 719[6]	434 719
Rolf M. Zinkernagel[10]	•						•	•	–	650 000	11 883	34 381[6]	684 381
Total[11]									**7 921 442**	**10 740 454**	**196 352**	**893 188**	**19 555 084**

[1] Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not compensation.
[2] The value of the shares reflected in this column has been calculated based on market value of the shares at grant date. All shares were granted as per January 19, 2011 against the prevailing share price of CHF 54.70.
[3] Daniel Vasella attended the meetings of these Committees as a guest without voting rights.
[4] Includes 12 188 shares paid in 2011 related to the grant of 2010.
[5] Includes social security costs due by the individual and paid by the company, pension and life insurance.
[6] Includes social security costs due by the individual and paid by the company.
[7] Does not include Board member compensation granted by Alcon, Inc. until April 8, 2011.
[8] The Board of Directors has delegated William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).
[9] According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of the compensation.
[10] The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD) and to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).
[11] Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their compensation was reported in the 2010 Annual Report.

BOARD MEMBER COMPENSATION IN 2010 (MARKET VALUE)[1]

	Board membership	Vice Chairman	Chairman's Committee	Audit and Compliance Committee	Risk Committee	Compensation Committee	Corporate Governance and Nomination Committee	Delegated board membership	Annual cash compensation (CHF) (A)	Shares (Market value) (CHF) (B)	Shares (Number)	Other (CHF) (C)[2]	Total (CHF) (A)+(B)+(C)
Daniel Vasella	Chair		Chair	•[3]	•[3]	•[3]	•[3]		3 666 674	7 333 328	131 304	189 260	11 189 262[4]
Ulrich Lehner	•	•	•	•	•	•	Chair		1 110 000	–	–	59 034	1 169 034
Hans-Joerg Rudloff	•	•	•	•	•	•			750 000	–	–	37 666	787 666
William Brody[5]	•					•		•	375 000	150 013	2 686	–	525 013
Srikant Datar	•			Chair	•	•			459 688	100 362	1 797	–	560 050
Ann Fudge	•						•		250 000	150 013	2 686	–	400 013
Alexandre F. Jetzer-Chung[6]	•								350 000	–	–	17 722	367 722
Pierre Landolt[7]	•						•		106 000	294 050	5 265	22 604	422 654
Andreas von Planta	•			•	Chair		•		453 000	107 009	1 916	28 344	588 353
Wendelin Wiedeking	•			•	•				150 875	349 174	6 252	26 593	526 642
Marjorie M.T. Yang	•					Chair			410 000	–	–	23 133	433 133
Rolf M. Zinkernagel[8]	•						•	•	650 000	–	–	33 677	683 677
Total									**8 731 237**	**8 483 950**	**151 906**	**438 033**	**17 653 220**

[1] Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not compensation. All shares were granted as per January 19, 2010 against the prevailing share price of CHF 55.85.
[2] Pension and social security costs due by the individual and paid by the company.
[3] Daniel Vasella attended the meetings of these Committees as a guest from February 1, 2010 without voting rights.
[4] Does not include Board member compensation granted by Alcon, Inc. and reflects only the compensation for the period starting February 1, 2010 to the end of the year 2010.
[5] The Board of Directors has delegated William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).
[6] In addition, Alexandre F. Jetzer-Chung was paid CHF 380 004 for consulting services.
[7] According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of the compensation.
[8] The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD) and to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

12.2) COMPENSATION OF EXECUTIVE COMMITTEE MEMBERS

GENERAL PRINCIPLES

The compensation policies, performance management process and incentive plans apply equally to the Executive Committee members.

Decisions concerning the compensation of the Executive Committee members are based on an evaluation of the individual performance of the members of the Executive Committee as well as on the performance of their respective business area or function. Compensation of Executive Committee members is highly linked to Novartis' performance against performance objectives. The metrics of performance objectives, including net sales, operating income, market share, Novartis Economic Value Added (NVA) or innovation, are designed to appropriately balance short-term and long-term objectives. On the one hand, objectives are set at ambitious levels each year to motivate a high degree of business performance with emphasis on longer term financial objectives. On the other hand, they are also designed to avoid inappropriate or excessive risk.

COMPENSATION FOR PERFORMANCE IN 2011 AND 2010

The following compensation tables disclose the compensation granted to the Executive Committee members for performance in 2011 with comparatives to 2010. The following paragraphs describe the principles underlying the data in the tables.

ALIGNMENT OF REPORTING AND PERFORMANCE

The compensation tables synchronize the reporting of annual compensation with the performance in the given year, i.e., all amounts awarded for performance in 2011 and 2010, including the future ESOP/LSSP match, are disclosed in full in the tables of 2011 and 2010.

DISCLOSURE STRUCTURE

The compensation table shows the compensation granted to the CEO and each Executive Committee member for performance in 2011 for all compensation elements.

The column "Future ESOP/LSSP match" reflects shares to be awarded in the future if the Executive Committee member remains with Novartis for at least three or five years, respectively.

The Executive Committee members were invited to invest their annual incentive awards for 2011 and 2010 in the leveraged share saving plans – either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP) – to further align their interests with those of our shareholders. Under the plan rules, participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period. Under the three-year ESOP, for every two shares invested, the participant receives one matching share. Under the five-year LSSP, each share invested entitles the participant to receive one matching share. If a participant leaves Novartis prior to the expiration of the vesting period, in general, no matching shares are awarded.

VALUATION PRINCIPLES

In order to allow a comparison with other companies, the Compensation Committee decided to disclose shares, restricted shares, RSUs and ADS at their market value on the date of grant. Market value is the current quoted share price at which a director or an associate is granted a share, a restricted share or a restricted stock unit at grant date. The market value of share options is calculated by using an option pricing valuation model as per grant date.

Shares, RSUs and share options under the variable compensation plans are generally granted with a vesting[1] period and associates in Switzerland (including Executive Committee members) may block[2] shares received under any variable compensation plan for up to 10 years. According to the Swiss Federal Tax Administration and as the Compensation Committee also firmly believes, such restrictions affect the value of shares, RSUs and share options negatively. In its "Kreisschreiben Nr. 5", the Swiss Tax Administration provides for a methodology pursuant to which unvested or blocked shares or share options shall be valued with a discount for each year they are unvested or blocked. In addition, for the valuation of share options, the Swiss Tax Authorities apply – in a standing practice for Novartis (since 1997) – an option valuation model based on Black-Scholes.

See also Note 27 to the Group's consolidated financial statements for information on executive officer and non-executive director compensation in accordance with IFRS.

[1] Vesting refers to the waiting period under a share-based incentive plan that must expire before the associate becomes irrevocably entitled to the shares, RSUs or share options involved. The associate cannot sell or exercise unvested share, RSUs or share options. If an associate leaves Novartis prior to the expiration of the vesting period for reasons other than retirement, disability or death, the associate will generally forfeit rights to such shares, RSUs or share options.

[2] Blocking refers to the ability of associates in Switzerland to opt for an extended trading restriction period of up to 10 years from the award date (including vesting). Novartis encourages associates to block their shares because doing so aligns the associates' interests with those of shareholders.

EXECUTIVE COMMITTEE MEMBER COMPENSATION FOR PERFORMANCE YEAR 2011 (MARKET VALUE)[1]

		Base compensation	Variable compensation						Benefits		Total		Total compensation
			Short-term incentive plans		Long-term incentive plans								
					Equity Plan "Select"		Long-Term Performance Plan	Special share awards	Pension benefits	Other benefits		Future ESOP/LSSP match[10]	Including future ESOP/LSSP match[11,12]
	Currency	Cash (Amount)	Cash (Amount)	Shares (Market value)[2]	Shares (Market value)[3]	Options (Market value)[4]	Shares (Market value)[5]	Shares (Market value)[6]	(Amount)[7]	(Amount)[8]	(Amount)[9]	Shares (Market value)	(Amount)
Joseph Jimenez (Chief Executive Officer)	CHF	1 916 667	704 000	1 056 033	6 160 047	0	4 550 524	0	172 193	106 889	14 666 353	1 056 033	15 722 386
Juergen Brokatzky-Geiger	CHF	696 670	0	616 037	1 232 020	0	582 379	0	150 268	26 117	3 303 491	616 037	3 919 528
Kevin Buehler (since April 8, 2011)[13]	USD	803 611	618 799	1 078 872	2 716 195	0	1 312 775	0	229 624	45 974	6 805 850	1 078 872	7 884 722
David Epstein	USD	933 333	402 630	583 475	2 794 007	0	1 293 468	0	279 409	115 086	6 401 408	583 475	6 984 883
Mark C. Fishman	USD	986 333	13 997	951 304	3 861 038	0	1 347 831	0	252 712	122 315	7 535 530	951 304	8 486 834
Jeff George	CHF	733 334	365 650	365 687	1 462 533	0	443 410	940 000	105 934	48 053	4 464 601	182 871	4 647 472
George Gunn	CHF	845 836	663 000	0	1 105 030	0	930 397	0	98 584	9 992	3 652 839	0	3 652 839
Andrin Oswald	CHF	733 334	682 500	0	1 365 027	0	443 410	940 000	118 403	57 507	4 340 181	0	4 340 181
Jonathan Symonds	CHF	890 000	0	792 025	1 980 034	0	766 171	0	196 350	0	4 624 580	792 025	5 416 605
Thomas Werlen (until September 30, 2011)[14]	CHF	560 001	0	412 516	0	0	0	0	99 836	1 598 454	2 670 807	0	2 670 807
Naomi Kelman (as from March 2, 2011)[15]	USD	497 826	262 500	0	525 028	0	81 720	4 773 120	18 466	638 443	6 797 103	0	6 797 103
Felix R. Ehrat (as from October 1, 2011)[16]	CHF	175 000	0	130 405	260 810	0	76 639	0	36 296	4 352	683 502	130 405	813 907
Total[17]	**CHF**	**9 401 376**	**3 563 757**	**5 685 668**	**22 323 260**	**0**	**11 364 429**	**6 104 000**	**1 668 316**	**2 667 132**	**62 777 939**	**5 090 336**	**67 868 275**

[1] Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not considered compensation.

[2] Participants elected to invest some or all of the value of their annual incentive in the five-year Leveraged Share Savings Plan (LSSP) or the three-year Swiss Employee Share Ownership Plan (ESOP) rather than to receive cash.

[3] Novartis shares granted under the Novartis Equity Plan "Select" have a three-year vesting period.

[4] Novartis share options granted under the Novartis Equity Plan "Select" are tradable. Share options granted outside North America will expire on January 19, 2022, have a three-year vesting period and have an exercise price of CHF 54.20 per share (the closing price of Novartis shares on the grant date of January 19, 2012). Based on the option pricing valuation model as per grant date, the value of the share options granted outside North America used in this table was CHF 4.30. Share options on ADSs granted to participants in North America will expire on January 19, 2022, have a three-year vesting period and an exercise price of USD 58.33 per ADS (the closing price of Novartis ADSs on the grant date of January 19, 2012). Based on the option pricing valuation model as per grant date, the value of the share options on ADSs granted to participants in North America used in this table was USD 4.14.

[5] Awarded based on the achievement of Novartis Economic Value Added (NVA) objectives over the performance period ended December 31, 2011.

[6] The special share awards consist of RSUs to Jeff George and to Andrin Oswald awarded on September 1, 2011, against the closing share price of that day (CHF 47.00). These RSUs have a five year vesting period. The special share awards also consist of a special award of 88 000 shares granted to Naomi Kelman to compensate her loss of equity from her former employer. This grant was awarded on April 1, 2011 at the price of USD 54.24 with staggered vesting over seven years.

[7] Service costs of pension and post-retirement healthcare benefits accumulated in 2011.

[8] Includes perquisites and other compensation paid during 2011. Does not include cost allowances and tax-equalization payments regarding the international assignment of David Epstein, Jeff George and Andrin Oswald. Does not include an annual pension in payment for Kevin Buehler as a result of a change of control clause (USD 346 362 being the time pro-rated amount for the period from April 8, 2011 to December 31, 2011).

[9] The value of all equity grants included in this table has been calculated based on market value.

[10] Reflects shares to be awarded in the future under the share saving plans, either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP). Participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period.

[11] The values of the shares, RSUs and share options reflected in this table have been calculated based on market value. The closing share price on the grant date January 19, 2012 was CHF 54.20 per Novartis share and USD 58.33 per ADS.

[12] All amounts are gross amounts (i.e., before deduction of social security and income tax due by the executives). The employer social security contribution is not included.

[13] Excludes the annual incentive and an equity grant that were awarded to K. Buehler prior to April 8, 2011 and which relate to past performance.

[14] Thomas Werlen stepped down from the Executive Committee as per September 30, 2011 and decided to leave Novartis on January 31, 2012. The base compensation and benefits information in the table reflects his pro rata compensation over the period from January 1, 2011 to September 30, 2011 (i.e. the period during which he was member of the Executive Committee). The other compensation ("Other benefits") includes the contractual salary payments from October 1, 2011 to January 31, 2012 and the pension benefits costs over this period. The other compensation ("Other benefits") does not include, however, the fair market compensation for refraining to compete with any business of Novartis over an agreed period after leaving the Company. Mr. Werlen will receive fair market compensation in return for complying with the restriction not to compete.

[15] The table reflects the compensation as Permanent Attendee to the Executive Committee from date of hiring (March 2, 2011) until December 31, 2011.

[16] The table reflects the compensation as Permanent Attendee to the Executive Committee from hire date (October 1, 2011) until December 31, 2011.

[17] Amounts in USD for Kevin Buehler, David Epstein, Mark C. Fishman and Naomi Kelman were converted at a rate of CHF 1.00 = USD 1.130, which is the same average exchange rate used in the Group's consolidated financial statements.

EXECUTIVE COMMITTEE MEMBER COMPENSATION FOR PERFORMANCE IN 2010 (MARKET VALUE)[1]

		Base compensation	Variable compensation						Benefits		Total		Total compensation
			Short-term incentive plans		Long-term incentive plans								
					Equity Plan "Select"		Long-Term Performance Plan	Special share awards	Pension benefits	Other benefits		Future ESOP/LSSP match[10]	Including future ESOP/LSSP match[11,12]
	Currency	Cash (Amount)	Cash (Amount)	Shares (Market value)[2]	Shares (Market value)[3]	Options (Market value)[4]	Shares (Market value)[5]	Shares (Market value)[6]	(Amount)[7]	(Amount)[8]	(Amount)[9]	Shares (Market value)	(Amount)
Joseph Jimenez (Chief Executive Officer since February 1, 2010, previously ECN member)	CHF	1 458 334	590 000	885 046	6 812 994	0	2 028 714	0	166 162	92 287	12 033 537	885 046	12 918 583
Juergen Brokatzky-Geiger	CHF	678 338	0	680 030	1 360 006	0	625 495	0	146 470	11 965	3 502 304	680 030	4 182 334
David Epstein[13]	USD	832 500	390 937	494 569	2 406 014	0	1 060 304	0	201 800	93 065	5 479 189	494 569	5 973 758
Mark C. Fishman	USD	968 000	14 036	953 982	3 872 028	0	1 769 512	0	256 555	122 518	7 956 631	953 982	8 910 613
Jeff George[13]	CHF	645 837	643 400	0	643 381	715 464	293 192	540 500	67 077	51 520	3 600 371	0	3 600 371
George Gunn[13]	CHF	825 000	940 600	0	1 632 904	0	825 861	0	107 660	15 850	4 347 875	0	4 347 875
Andrin Oswald[13]	CHF	645 837	629 800	0	1 259 413	0	387 167	540 500	70 465	30 347	3 563 529	0	3 563 529
Jonathan Symonds[13]	CHF	836 722	0	836 746	1 740 007	0	404 124	0	136 493	0	3 954 092	836 746	4 790 838
Thomas Werlen	CHF	725 008	0	547 547	547 547	608 870	750 375	0	122 617	22 366	3 324 330	547 547	3 871 877
Total[14,15]	**CHF**	**7 688 645**	**3 225 208**	**4 456 706**	**20 529 074**	**1 324 334**	**8 259 586**	**1 081 000**	**1 293 900**	**448 667**	**48 307 120**	**4 456 706**	**52 763 826**

[1] Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not considered compensation.

[2] Participants elected to invest some or all of the value of their incentive in the five-year Leveraged Share Savings Plan (LSSP) or the three-year Swiss Employee Share Ownership Plan (ESOP; if eligible) rather than to receive cash.

[3] Novartis shares granted under the Novartis Equity Plan "Select" have either a two or three-year vesting period depending on the jurisdiction of the participant.

[4] Novartis share options granted under the Novartis Equity Plan "Select" are tradable. Share options granted outside North America will expire on January 19, 2021, have a two-year vesting period in Switzerland (three years in other countries) and have an exercise price of CHF 54.70 per share (the closing price of Novartis shares on the grant date of January 19, 2011). Based on the option pricing valuation model as per grant date, the value of the share options granted outside North America used in this table was CHF 5.06. Share options on ADSs granted to participants in North America will expire on January 19, 2021, have a three-year vesting period and an exercise price of USD 57.07 per ADS (the closing price of Novartis ADSs on the grant date of January 19, 2011). Based on the option pricing valuation model as per grant date, the value of the share options on ADSs granted to participants in North America used in this table was USD 5.94.

[5] Awarded based on the achievement of Novartis Economic Value Added (NVA) objectives over the performance period ended December 31, 2010.

[6] The special share awards consist of RSUs to Jeff George and to Andrin Oswald awarded on September 1, 2010, against the closing share price of that day of CHF 54.05. These awarded RSUs have a five-year vesting period.

[7] Service costs of pension and post-retirement healthcare benefits accumulated in 2010, and employer contributions to defined contribution pension plans in 2010.

[8] Includes perquisites and other compensation paid during 2010. Does not include cost allowances and tax-equalization payments regarding the international assignment of David Epstein, Jeff George and Andrin Oswald.

[9] The value of all equity grants included in this table has been calculated based on market value.

[10] Reflects shares to be awarded in the future under the share saving plans, either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP). Participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period.

[11] The values of the shares, RSUs and share options reflected in this table have been calculated based on market value. The closing share price on the grant date January 19, 2011 was CHF 54.70 per Novartis share and USD 57.07 per ADS.

[12] All amounts are gross amounts (i.e., before deduction of social security and income tax due by the executives). The employer's share of social security contributions is not included.

[13] The table reflects the compensation as a Permanent Attendee to the Executive Committee over the period from January 1, 2010 to January 31, 2010 and as a member of the Executive Committee over the period from February 1, 2010 to December 31, 2010.

[14] Amounts in USD for David Epstein and Mark C. Fishman were converted at a rate of CHF 1.00 = USD 0.961, which is the same average exchange rate used in the Group's consolidated financial statements.

[15] Daniel Vasella (Chairman and CEO of Novartis until January 31, 2010), Raymund Breu, Jörg Reinhardt, Andreas Rummelt and Thomas Wellauer stepped down from the Executive Committee as of January 31, 2010. Their remuneration for this period is disclosed in the table "Compensation for Executive Committee members who stepped down during 2010".

EXECUTIVE COMMITTEE MEMBER - EQUITY AWARDS FOR PERFORMANCE YEAR 2011 (NUMBER OF EQUITY INSTRUMENTS)

	Variable compensation					
	Short-term incentive plans	Long-term incentive plans				
		Equity Plan "Select"		Long-Term Performance Plan	Special share awards	Future ESOP/LSSP match
	Shares (Number)	Shares (Number)	Options (Number)	Shares (Number)	Shares (Number)	Shares (Number)
Joseph Jimenez (Chief Executive Officer)	19 484	113 654	0	83 958	0	19 484
Juergen Brokatzky-Geiger	11 366	22 731	0	10 745	0	11 366
Kevin Buehler (since April 8, 2011)	18 496	46 566	0	22 506	0	18 496
David Epstein	10 003	47 900	0	22 175	0	10 003
Mark C. Fishman	16 309	66 193	0	23 107	0	16 309
Jeff George	6 747	26 984	0	8 181	20 000	3 374
George Gunn	0	20 388	0	17 166	0	0
Andrin Oswald	0	25 185	0	8 181	20 000	0
Jonathan Symonds	14 613	36 532	0	14 136	0	14 613
Thomas Werlen (until September 30, 2011)	7 611	0	0	0	0	0
Naomi Kelman (as from March 2, 2011) [1]	0	9 001	0	1 401	88 000	0
Felix R. Ehrat (as from October 1, 2011) [1]	2 406	4 812	0	1 414	0	2 406
Total	**107 035**	**419 946**	**0**	**212 970**	**128 000**	**96 051**

[1] The table reflects the compensation as Permanent Attendee to the Executive Committee from date of hiring until December 31, 2011.

EXECUTIVE COMMITTEE MEMBER COMPENSATION FOR PERFORMANCE IN 2010 (NUMBER OF EQUITY INSTRUMENTS)

	Variable compensation					
	Short-term incentive plans	Long-term incentive plans				
		Equity Plan "Select"		Long-Term Performance Plan	Special share awards	Future ESOP/LSSP match
	Shares (Number)	Shares (Number)	Options (Number)	Shares (Number)	Shares (Number)	Shares (Number)
Joseph Jimenez (Chief Executive Officer since February 1, 2010, previously ECN member)	16 180	124 552	0	37 088	0	16 180
Juergen Brokatzky-Geiger	12 432	24 863	0	11 435	0	12 432
David Epstein [1]	8 666	42 159	0	18 579	0	8 666
Mark C. Fishman	16 716	67 847	0	31 006	0	16 716
Jeff George [1]	0	11 762	141 396	5 360	10 000	0
George Gunn [1]	0	29 852	0	15 098	0	0
Andrin Oswald [1]	0	23 024	0	7 078	10 000	0
Jonathan Symonds [1]	15 297	31 810	0	7 388	0	15 297
Thomas Werlen	10 010	10 010	120 330	13 718	0	10 010
Total [2]	**79 301**	**365 879**	**261 726**	**146 750**	**20 000**	**79 301**

[1] The table reflects the compensation as a Permanent Attendee to the Executive Committee over the period from January 1, 2010 to January 31, 2010 and as a member of the Executive Committee over the period from February 1, 2010 to December 31, 2010.

[2] Daniel Vasella (Chairman and CEO of Novartis until January 31, 2010), Raymund Breu, Jörg Reinhardt, Andreas Rummelt and Thomas Wellauer stepped down from the Executive Committee as of January 31, 2010. Their remuneration for this period is disclosed in the table "Compensation for Executive Committee members who stepped down during 2010".

COMPENSATION FOR EXECUTIVE COMMITTEE MEMBERS WHO STEPPED DOWN DURING 2010 (MARKET VALUE)

	Total compensation (CHF) [1]
Daniel Vasella [2]	15 347 294
Raymund Breu [3]	2 846 283
Joerg Reinhardt [4]	3 524 149
Andreas Rummelt [5]	1 738 300
Thomas Wellauer [6]	2 845 832
Total	**26 301 858**

[1] The value of the shares reflected in the total compensation has been calculated based on market value.
[2] Compensation relates to the period until January 31, 2010 during which Daniel Vasella served in his role as Chairman and Chief Executive Officer. Includes shares to be awarded in the future under the Leveraged Shares Savings Plan (LSSP). Includes a one-time payment of CHF 12 million in the form of an insurance policy and the conclusion of his residual statutory and contractual employment entitlements.
[3] Compensation relates to the period until January 31, 2010 when Raymund Breu stepped down from the Executive Committee. Includes a special award in recognition of his contributions to Novartis.
[4] Compensation relates to the period until Joerg Reinhardt left Novartis.
[5] Compensation relates to the period until Andreas Rummelt left Novartis. Includes a special award in recognition of his contribution to the A (H1N1) project.
[6] Compensation relates to the period until Thomas Wellauer left Novartis. Includes a special award in recognition of his contributions to the procurement savings project. Also includes a special contribution to his pension fund.

TOTAL COMPENSATION TO EXECUTIVE COMMITTEE MEMBERS IN 2010 (MARKET VALUE)

	Total compensation (CHF)
Executive Committee member compensation for performance in 2010	52 763 826
Compensation for Executive Committee members who stepped down during 2010	26 301 858
Total	**79 065 684**

The aggregate amount of compensation of all Executive Committee members in 2010 (incl. compensation of Executive Committee members who stepped down during 2010) is CHF 79 065 684 (compared to CHF 67 868 275 in 2011). The factors which may influence in one way or another the difference of the aggregate amount of compensation of all Executive Committee members between 2010 and 2011 include, among others, the different composition of the Executive Committee (incl. the inclusion of Permanent Attendees to the Executive Committee), the variations in average compensation mix and individual objective attainment.

12.3) SHARES AND SHARE OPTIONS OWNED BY BOARD MEMBERS

The total number of vested and unvested Novartis shares and share options owned by Board members and "persons closely linked"[1] to them as of the end of the day of January 19, 2012, and the end of the day of January 19, 2011, is shown in the following tables.

As of the end of the day of January 19, 2012, and the end of the day of January 19, 2011, none of the Board members together with "persons closely linked"[1] to them owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

[1] "Persons closely linked" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary.

SHARES OWNED BY BOARD MEMBERS

	Number of shares [1,2]	
	As of January 19, 2012	As of January 19, 2011
Daniel Vasella	3 306 730	3 288 608
Ulrich Lehner	22 193	22 193
Hans-Joerg Rudloff	NA	40 080
William Brody	10 532	5 133
Srikant Datar	20 263	17 342
Ann Fudge	7 008	6 008
Alexandre F. Jetzer-Chung	NA	80 800
Pierre Landolt [3]	40 442	35 061
Enrico Vanni	4 839	NA
Andreas von Planta	111 628	109 580
Wendelin Wiedeking	40 901	34 182
Marjorie M.T. Yang	18 000	18 000
Rolf M. Zinkernagel	34 683	22 800
Total	**3 617 219**	**3 679 787**

NA – Not applicable.
[1] Includes holdings of "persons closely linked" to Board members (see definition under 12.3).
[2] Each share provides entitlement to one vote.
[3] According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all shares.

SHARE OPTIONS OWNED BY BOARD MEMBERS

	Number of share options[1]			
	Granted by Novartis in 2002 or earlier[1]	Share options acquired in the market[2]	As of January 19, 2012	As of January 19, 2011
Daniel Vasella	0	0	2 433 290	3 565 366
Ulrich Lehner	0	0	0	
Hans-Joerg Rudloff	0	NA	NA	24 570
William Brody	0	0	0	
Srikant Datar	0	0	0	
Ann Fudge	0	0	0	
Alexandre F. Jetzer-Chung	0	NA	NA	9 214
Pierre Landolt[3]	0	0	0	6 911
Enrico Vanni	0	0	0	
Andreas von Planta	0	0	0	
Wendelin Wiedeking	0	0	0	
Marjorie M.T. Yang	0	0	0	
Rolf M. Zinkernagel	0	0	0	15 357
Total	**0**	**0**	**2 433 290**	**3 621 418**

NA – Not applicable.
[1] The last year in which Novartis granted share options to non-executive Board members was in 2002. In 2002, Novartis granted 79 087 share options to non-executive Board members at an exercise price of CHF 62 and a term of nine years.
[2] Includes holdings of "persons closely linked" to Board members (see definition under 12.3).
[3] According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all share options.

12.4) SHARES AND SHARE OPTIONS OWNED BY EXECUTIVE COMMITTEE MEMBERS

SHARES AND SHARE OPTIONS OWNED

The following tables show the total number of vested and unvested Novartis shares (including share units but excluding unvested matching share units from leveraged share savings plans and unvested target units from the Long-Term Performance Plan) and the total number of share options owned by the Executive Committee members as of January 19, 2012, and January 19, 2011.

As of January 19, 2012, and January 19, 2011, no Executive Committee member together with "persons closely linked" to them (see definition under 12.3) owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

SHARES OWNED BY EXECUTIVE COMMITTEE MEMBERS

	Number of shares[1]	
	As of January 19, 2012	As of January 19, 2011
Joseph Jimenez	461 487	298 366
Juergen Brokatzky-Geiger	232 858	199 600
Kevin Buehler (as from April 8, 2011)	445 287[2]	NA
David Epstein	279 395	245 201
Mark C. Fishman	435 071	385 921
Jeff George	109 525	47 613
George Gunn	251 459	210 932
Andrin Oswald	135 713	90 347
Jonathan Symonds	144 829	79 548
Thomas Werlen (until September 30, 2011)	NA	109 797
Naomi Kelman (as from March 2, 2011)	97 906	NA
Felix R. Ehrat (as from October 1, 2011)	9 132	NA
Total	**2 602 662**	**1 667 325**

NA – Not applicable.
[1] Includes holdings of "persons closely linked" to Executive Committee members (see definition under 12.3).
[2] Excludes performance share units from former Alcon equity plans to vest after January 19, 2012.

SHARE OPTIONS OWNED BY EXECUTIVE COMMITTEE MEMBERS

	Number of share options[1]							
	2012	2011	2010	2009	2008	Other	As of January 19, 2012	As of January 19, 2011
Joseph Jimenez				552 076	157 266		709 342	709 342
Juergen Brokatzky-Geiger				75 705	109 016	146 436	331 157	331 157
Kevin Buehler (as from April 8, 2011)						782 485[2]	782 485	NA
David Epstein						267 777	267 777	590 229
Mark C. Fishman					184 870	587 149	772 019	850 809
Jeff George		141 396				114 979	256 375	256 375
George Gunn						94 371	94 371	94 371
Andrin Oswald						5 633	5 633	5 633
Jonathan Symonds						54 348	54 348	54 348
Thomas Werlen (until September 30, 2011)	NA	NA	NA	NA	NA	NA	NA	608 653
Naomi Kelman (as from March 2, 2011)[3]								NA
Felix R. Ehrat (as from October 1, 2011)[3]								NA
Total	**–**	**141 396**	**–**	**627 781**	**451 152**	**2 053 178**	**3 273 507**	**3 500 917**

NA – Not applicable.
[1] Share options disclosed for a specific year were granted under the Novartis Equity Plan "Select." The column "Other" refers to share options granted in 2005 or earlier, to share options granted to these executives while they were not Executive Committee members, and to share options bought by the Executive Committee members or "persons closely linked" to them (see definition under 12.3) on the market.
[2] Consists of non tradable options and share settled appreciation rights resulting from conversion of Alcon equity into Novartis equity.
[3] Naomi Kelman and Felix R. Ehrat became members of the Executive Committee as from 1 January 2012. From March 2, 2011 to December 31, 2011, Naomi Kelman was Permanent Attendee to the Executive Committee. From October 1, 2011 to December 31, 2011, Felix R. Ehrat was Permanent Attendee to the Executive Committee.

TERMS OF SHARE OPTIONS GRANTED

The share options granted to the Executive Committee members under the variable compensation plans are exercisable for one share each (1:1). The terms of the share options granted since 2007 are shown in the table below.

TERMS OF SHARE OPTIONS

Grant year	Exercise price (CHF/USD)	Vesting (years) (CH/other countries)	Term (years)
2012	54.20/58.33	3/3	10
2011	54.70/57.07	2/3	10
2010	55.85/53.70	2/3	10
2009	53.65/46.42	2/3	10
2008	64.05/57.96	2/3	10

12.5) LOANS AND OTHER PAYMENTS

LOANS TO BOARD MEMBERS OR EXECUTIVE COMMITTEE MEMBERS

No loans were granted to current or former Board members or Executive Committee members during 2011 and 2010. No such loans were outstanding as of December 31, 2011 and December 31, 2010.

OTHER PAYMENTS TO BOARD MEMBERS OR EXECUTIVE COMMITTEE MEMBERS

During 2011 and 2010, no payments (or waivers of claims) other than those set out in the Board Member Compensation tables, the Executive Committee Member Compensation tables and the table of compensation of Executive Committee members who stepped down during 2011 were made to current Board members or Executive Committee members or to "persons closely linked" to them (see definition under 12.3).

PAYMENTS TO FORMER BOARD MEMBERS OR EXECUTIVE COMMITTEE MEMBERS

During 2011 and 2010, no payments (or waivers of claims) were made to former Board members or Executive Committee members or to "persons closely linked" to them (see definition under 12.3), except for an amount of CHF 62 346 (2010: CHF 62 298) that was paid to the Honorary Chairman, and an amount of CHF 1 129 for social security arrears which was paid in favor of a former member of the Board of Directors and an amount of CHF 25 596, which was paid to a former member of the Executive Committee as deferred compensation.

13. RISK ASSESSMENT DISCLOSURES

Novartis AG, as the ultimate parent company of the Novartis Group, is fully integrated into the Group-wide internal risk assessment process and is fully integrated into the process described in note 32 to the Group's consolidated financial statements.

PROPOSAL FOR THE APPROPRIATION OF THE AVAILABLE EARNINGS OF NOVARTIS AG

	2011 CHF	2010 CHF
Available unappropriated earnings		
Balance brought forward	–	–
Net income of the year	5 370 749 043	7 027 682 826
Partial use of free reserves	477 787 917	–
Total available earnings	**5 848 536 960**	**7 027 682 826**
Appropriation		
Payment of a dividend of CHF 2.25 (2010: CHF 2.20) gross on 2 599 349 760 (2010: 2 478 241 163) dividend bearing shares with a nominal value of CHF 0.50 each	– 5 848 536 960	– 5 452 130 559
Transfer to free reserves	–	– 1 575 552 267
Balance to be carried forward	**–**	**–**

REPORT OF THE STATUTORY AUDITOR ON THE FINANCIAL STATEMENTS OF NOVARTIS AG

TO THE GENERAL MEETING OF NOVARTIS AG, BASEL

REPORT OF THE STATUTORY AUDITOR ON THE FINANCIAL STATEMENTS OF NOVARTIS AG

As statutory auditor, we have audited the financial statements of Novartis AG, which comprise the income statement, balance sheet and notes (pages 262 to 279), for the year ended December 31, 2011.

Board of Directors' Responsibility

The Board of Directors is responsible for the preparation of the financial statements in accordance with the requirements of Swiss law and the Company's articles of incorporation. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation of financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Those standards require that we plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity's preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control system. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements for the year ended December 31, 2011 comply with Swiss law and the Company's articles of incorporation.

REPORT ON OTHER LEGAL REQUIREMENTS

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 728 CO and article 11 AOA) and that there are no circumstances incompatible with our independence.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the Company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Peter M. Kartscher
Audit expert
Auditor in charge

Gerd Tritschler
Audit expert

Basel, January 24, 2012

ACKNOWLEDGEMENTS

We would like to thank all contributors to this Novartis Annual Report for sharing their knowledge and personal experiences.

ANNUAL REPORT PHOTOGRAPHY

Each year Novartis commissions a photographer to portray a unique, personal and artistic perspective of healthcare around the world. Depicting the diversity of patients, medical professionals, researchers and caregivers, these photographs demonstrate the complex realities of global healthcare.

We are grateful to Eugene Richards, and to the patients and caregivers who shared their images and stories in the Annual Report 2011.

With the exception of Novartis associates or other people specifically so identified, people in the photographs and stories have no actual or implied connection with Novartis or with the Group's products.

EUGENE RICHARDS

Eugene Richards was born in Dorchester, Massachusetts, United States. Following college he served with Volunteers in Service to America (VISTA) in eastern Arkansas, then founded a social service organization and community newspaper. The photographs he made during that time were collected in his first book, *Few Comforts or Surprises: The Arkansas Delta.*

Returning to Dorchester, Mr. Richards documented racially charged changes in his old neighborhood, resulting in the book, *Dorchester Days*. Mr. Richards began to work increasingly as a freelance magazine photographer, undertaking assignments on such diverse subjects as emergency medicine, the American family, river blindness, the war in Bosnia, and aging and death in America.

Mr. Richards has published several other award-winning books, including *Exploding Into Life*, which chronicles his first wife's struggle with breast cancer; *Below The Line*, a documentation of rural and urban poverty in America; *Cocaine True, Cocaine Blue*, a study of the impact on society of drug addiction; *The Fat Baby*, 15 textual and photographic essays; *The Blue Room*, a study of abandoned and deserted houses in rural America; and *A Procession of Them*, which confronts the plight of the institutionalized mentally disabled. His most recent book, *War Is Personal*, is an assessment in words and pictures of the human consequences of the Iraq war.

Among numerous honors, Mr. Richards has received a Guggenheim Fellowship, National Endowment for the Arts grants, the W. Eugene Smith Memorial Award, the Kraszna-Krausz Award for Photographic Innovation in Books, the Robert F. Kennedy Lifetime Achievement Award, and the Amnesty International Media Award.

The books *Cocaine True, Cocaine Blue* and *Dorchester Days* were chosen for inclusion in *The Open Book*, an exhibition and catalog that recognizes the finest photographic books from the past 100 years. *The Fat Baby* and *Dorchester Days* are cited in the anthology, *The Photobook: A History, Volume II*. *But, the day came*, a film written and directed by Mr. Richards, was named Best Short Film at the Full Frame Documentary Film Festival.

KEY DATES FOR 2012

Anticipated key reporting dates

Annual General Meeting	February 23, 2012
First Quarter 2012 Results	April 24, 2012
Second Quarter and First Half 2012 Results	July 19, 2012
Third Quarter and First Nine Months 2012 Results	October 25, 2012
Full Year 2012	January 2013

The business policy of Novartis takes into account the OECD's Guidelines for Multinational Enterprises, with their recommendations on the disclosure of information.

Our Annual Report is published in English, with a German translation available.

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FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements that can be identified by terminology such as "planned," "expected," "will," "potential," "pipeline," or similar expressions, or by express or implied discussions regarding potential new products, potential new indications for existing products, or regarding potential future revenues from any such products; or regarding potential future sales or earnings of the Novartis Group or any of its divisions; or by discussions of strategy, plans, expectations or intentions. You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of the Group regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no guarantee that any new products will be approved for sale in any market, or that any new indications will be approved for any existing products in any market, or that any approvals which are obtained will be obtained at any particular time, or that any such products will achieve any particular revenue levels. Nor can there be any guarantee that the Group, or any of its divisions, will achieve any particular financial results. In particular, management's expectations could be affected by, among other things, unexpected regulatory actions or delays or government regulation generally, including the potential outcomes of our ongoing discussions with health authorities concerning *Rasilez/Tekturna* as a result of the ALTITUDE study, and including the outcome of health authority reviews of the benefits and risks of *Gilenya*; unexpected clinical trial results, including additional analyses of existing clinical data or unexpected new clinical data, including any potential new analyses of the ALTITUDE study which may occur; the Group's ability to obtain or maintain patent or other proprietary intellectual property protection, including the ultimate extent of the impact on the Group of the loss of patent protection on key products which commenced last year and will continue this year; unexpected product manufacturing issues, including the potential outcomes of the Warning Letter issued to us with respect to three Sandoz manufacturing facilities, and the potential outcome of the shutdown of the OTC manufacturing facility at Lincoln, Nebraska; government, industry, and general public pricing pressures; uncertainties regarding actual or potential legal proceedings, including, among others, actual or potential product liability litigation, litigation regarding sales and marketing practices, shareholder litigation, government investigations and intellectual property disputes; competition in general; uncertainties regarding the after-effects of the recent global financial and economic crisis; uncertainties regarding future global exchange rates and uncertainties regarding future demand for our products; uncertainties involved in the development of new healthcare products; the impact that the foregoing factors could have on the values attributed to the Group's assets and liabilities as recorded in the Group's consolidated balance sheet; and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated or expected. Novartis is providing the information in this presentation as of this date and does not undertake any obligation to update any forward-looking statements as a result of new information, future events or otherwise.


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