NOVARTIS AG
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SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
Pursuant to Rule 13a-16 or 15d-16 of
the Securities Exchange Act of 1934

Report on Form 6-K dated February 4, 2005
(Commission File No. 1-15024)

Novartis AG

(Name of Registrant)

Lichtstrasse 35
4056 Basel
Switzerland

(Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F: ý Form 40-F: o

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes: o No: ý

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Yes: o No: ý

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes: o No: ý

Enclosure:

Novartis AG Annual Report 2004 to Shareholders

Our Mission

We want to discover, develop and successfully market innovative products to 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.

GROUP OVERVIEW

FINANCIAL OVERVIEW

Financial Highlights

Key figures

	2004	2003
	(in USD millions unless indicated otherwise)	
Net sales	**28 247**	24 864
Operating income	**6 539**	5 889
Net income	**5 767**	5 016
Return on sales (%)	**23.1**	23.7
Research and development	**4 207**	3 756
Research and development as % of net sales	**14.9**	15.1
Free cash flow	**3 359**	3 628
Number of employees	**81 392**	78 541

Share information

	2004	2003
	(in USD millions unless indicated otherwise)	
Return on average equity (%)*	**18.0**	17.1
Earnings per share (USD)*	**2.36**	2.03
Operating cash flow per share (USD)	**2.75**	2.69
ADS price at end of year (USD)	**50.54**	45.89
Share price at end of year (CHF)	**57.30**	56.15
Pay-out ratio based on outstanding shares (%)	**39**	39

*

Average number of shares outstanding in 2004: 2 447 954 717 (2003: 2 473 522 565)

News in 2004

Group Performance

Novartis delivers record net sales and net income. Group net sales grow 14% (+9% in local currencies) and net income 15%, driven by strong organic growth at both Pharmaceuticals and Consumer Health.

Pharmaceuticals

Double-digit net sales growth continues to outpace the market. Further market share gains registered in key countries. Operating income expands faster than net sales due to strong organic growth and productivity improvements.

Consumer Health

Net sales advance 10% (+5% in local currencies), driven by focus on strategic brands and new product launches, particularly at OTC and CIBA Vision. Sandoz performance adversely affected by comparison with strong 2003, and by price competition.

Pipeline

Novartis leads pharmaceutical industry with 13 regulatory approvals in US since 2000. Seven approvals in major markets in 2004.
Industry-leading pipeline with 75 projects in clinical development, of which 52 in Phase II, Phase III or in registration.

Research

Novartis Institutes of BioMedical Research double scientific staff at Cambridge headquarters, with emphasis on biology of diseases with high unmet medical need, and strong commitment to external collaboration and strategic partnerships.

Corporate Citizenship

In 2004, Novartis is able to contribute USD 570 million to patients in need through access to medicine programs.

Dividend

A dividend increase to CHF 1.05 per share (+5%) will be proposed to shareholders, reflecting the strong organic net sales growth and improved profitability.

Letter From Daniel Vasella

Dear Shareholder:

I am pleased to report strong business performance in our ninth business year, which ended with yet another record result and market share gains.

Let me summarize the key 2004 figures:

Group net sales increased 14% (9% in local currencies) to USD 28.2 billion

Pharmaceuticals net sales rose 15% (10% in local currencies)

Consumer Health net sales gained 10% (5% in local currencies)

Group operating income advanced to USD 6.5 billion (+11%)

Net income growth of 15% to USD 5.8 billion

Earnings per share USD 2.36 (+16%)

Innovation and a focus on patients, core elements of our strategy, resulted in another record performance

These record results reflect our emphasis on sustainable, organic growth, a product of our consistent innovation strategy and the skills and commitment of over 81 000 associates worldwide.

The Pharmaceuticals division, again led by our cancer and cardiovascular franchises, posted a double-digit rise in sales, with market share expanding globally. These successes were realized in a challenging health-care market characterized by cost-containment measures in many parts of the world.

In 2004, we increased overall R&D investments by 12% to USD 4.2 billion

Our pharmaceutical research and development (R&D) expenditure ranked as one of the highest in the industry, relative to sales (18.8%), with outlays of USD 3.5 billion. This investment allowed us to complete construction of new laboratories, and hire more than 800 scientists at our new research headquarters in Cambridge, MA. New or enhanced platforms in biology and chemistry, paired with scientific leadership, not only fortified fundamental and applied research but also improved the compound selection process, speeding up pipeline throughput.

The Novartis Institutes for BioMedical Research (NIBR) continue to focus their efforts on tractable biological targets and selected disease areas with high unmet medical needs, striving to bring novel medicines rapidly to patients. To achieve this objective, we are intensifying our efforts to elucidate the function of specific human genes identified by the Human Genome Project. While structural blueprints for these genes are now available, in most cases the genes' primary role in the body and their potential involvement in disease remain unknown. "Functionalizing" the genome is a vast undertaking one beyond the means and resources of any single company. Accordingly, we have forged dozens of collaborations, completing 48 alliances with industry and 100 with academia.

Pipeline of new drugs is one of the industry's strongest

Our pharmaceutical development pipeline is one of the best with 75 compounds, 52 of which are in advanced development or registration. Over the past few years, Novartis has maintained its leading position in R&D productivity. Novartis has received 13 US approvals since 2000, the highest figure of any Top Ten global pharmaceutical company. Of particular importance are first-in-class compounds and, currently, 7 of our 10 highly innovative compounds in mid-to-late-stage development belong to this group.

Among these are:

LAF237, the first of a new class of "incretin enhancers," oral antidiabetic agents that indirectly increase the blood glucose regulating hormone GLP-1. Phase III trial data for LAF237 are expected during the latter part of 2005.

SPP100 is the first in a new antihypertensive class called "renin inhibitors." Elevated renin levels increase the risk of myocardial infarction and renal damage. So, SPP100 has the potential for improved end-organ protection. Phase III data are expected in 3Q 2005.

FTY720, an immunomodulator with a novel mechanism of action, has recently completed Phase II studies as an oral treatment for multiple sclerosis, showing a reduction of brain lesions and a significantly reduced relapse rate for MS patients treated.

PTK787 is an anticancer drug that inhibits all known angiogenesis factors involved in cancer. Submission for US regulatory approval is planned for the second half of 2005.

AMN107 is our new, most selective BCR-ABL inhibitor, a potentially more effective follow-up compound for our revolutionary medicine *Gleevec/Glivec*. Phase II studies will begin in the first half of 2005.

Promising new compounds bring hope to patients

As a physician, I often witnessed the hope that R&D brought to patients, especially in life-threatening situations. New treatments that can reduce suffering and high health-care costs are needed for the more than 10 million people diagnosed with cancer annually, and for those suffering from incapacitating Alzheimer's dementia, diabetes and cardiovascular disease, all on the rise.

It is a fact that a good profit outlook is a precondition for any industrial R&D activities. In turn intellectual property protection is the only way to ensure the open sharing of research findings without fear of copying, and to be certain that there is a potential to earn an adequate return from successful projects. Therefore strong intellectual property rights are a foundation for sustained innovation and allow us to continue to invest in R&D despite long lead times of 12-15 years. In this context I welcome the decision by India to introduce patent protection in 2005, which, I believe will accelerate development of an innovative domestic Indian pharmaceutical industry and encourage direct investment by international companies in local drug discovery and clinical research. Let's remember that overall the pharmaceutical industry invests nearly USD 50 billion a year in research and development, the single most important source of investment in health research.

Drugs effectively fight disease and reduce overall health-care costs

On a macro level, it is clear that the need for novel medicines will rise as the population ages. The United Nations Population Division reports that in North America, 16% of the population was over 60 years of age in 2000. By the year 2025, it projects this percentage will rise to 25%; in Europe, the corresponding figure will be even higher. The increased life expectancy is primarily a consequence of the tremendous advances we have made in medical knowledge. For example: Over the last 40 years mortality as a consequence of hypertensive heart disease dropped by 67%, the death rate for GI ulcers declined by 61%, and for emphysema by 31%, and infant mortality dropped by a staggering 80%.

Of course, this is not just due to better drug therapies but, also, to better diagnostics, surgery and care. But there is no doubt, for example, that modern pharmacotherapy played a major role in the 60% drop in mortality over the past 25 years for children who suffer from cancer. Since I became a physician, I have witnessed how new medicines have revolutionized many medical fields, such as transplantation, ulcer therapy, cancer therapy, the treatment of ischemic heart disease and the therapy for schizophrenia, to name just a few. New treatments have also helped reduce chronic disability, which dropped by 25% over the past 20 years in people over 60. So people on average not only live longer, but also better. Furthermore, studies demonstrate that rational drug therapy shortens hospital stays, creating significant system savings. These savings by far exceed the incremental costs of modern drug therapy.

A medicine-based business portfolio

As a company, we want to discover, develop and market medicines that are best suited for specific conditions. This includes innovative prescription medicines, which sometimes are breakthroughs and have the power to change the way medicine is practiced. A recent example is *Gleevec/Glivec* for the treatment of chronic myeloid leukemia; another is *Neoral*, which revolutionized the field of organ transplantation. But our medicine-based business portfolio not only includes innovative medicines, but also provides generics and self-medication drugs.

Generics play an important role in times of rising healthcare costs, providing cost-effective treatment options. Our generics business unit, Sandoz, offers best quality and attractively priced medicines. After a dynamic internal and external growth phase over the past few years, the 2004 performance of our Generics business in the US and German markets was disappointing. Price competition and delays of new product launches had a negative impact. As a consequence, we are focusing our efforts on building a cost-competitive structure on a global scale and investing to speed up our development efforts. Following our strategy we pursue organic growth complemented by external growth. In 2004, we participated in the ongoing consolidation of the generics industry by acquiring Sabex Holding in Canada and Durascan in Denmark.

At Novartis Consumer Health, the OTC, Animal Health, Medical Nutrition and Infant & Baby business units all outperformed their markets, reflecting the division's strategic focus on Consumer and Customer Excellence. Dedicated customer teams formed last year to serve key accounts such as Wal-Mart Stores, Inc., are pooling efforts across business units and drawing on cross- functional capabilities to generate synergies and further growth.

Providing access for patients in need

Today, many speak about the right to health as a basic human right. We support this concept as an aspirational objective, realizing that no single party will ever be able to cover the many needs of patients who do not have the financial means to buy healthcare services and drugs. All the various actors, primarily governments, but also international organizations, companies and civil society, have a role to play. But thanks to our strong financial results in 2004, we were able to expand our "access to medicines" programs for uninsured and indigent patients suffering from leprosy, malaria, tuberculosis, chronic myeloid leukemia and other diseases, all part of our important worldwide corporate citizenship program. Currently we are also scaling up production capacity for *Coartem*, our novel antimalarial medicine, in response to rapid changes in treatment policies in malaria-endemic countries. The Novartis Foundation for Sustainable Development, which celebrated its 25th anniversary in 2004, is an outstanding example of how we actively shoulder our social responsibility to alleviate the immense poverty and associated human misery in the developing world.

The most innovative initiative, however, is our research center for tropical diseases, The Novartis Institute for Tropical Diseases (NITD), which we recently inaugurated in Singapore. NITD, managed on a not-for-profit basis, focuses on finding new therapies for Dengue fever and Tuberculosis, both neglected diseases that are gaining in importance, especially in developing countries.

All told, in 2004, we donated USD 570 million through various corporate citizenship programs. This is the Novartis contribution to the most needy patients in the world.

The solution to future health-care challenges is an undiminished commitment to innovation

At present, a number of parties are attacking the pharmaceutical industry. Some of this critique is valid. But often, the public unfortunately ignores or forgets the immense progress achieved in medical practice thanks to modern pharmacotherapy. In the past, money was often not a key factor when the health or even the life of a patient was at stake. It appears today that costs can be a primary concern for many people. Steps taken to lower costs, such as continuous, imposed price reductions, have had a deeply negative effect on the pharmaceutical research base in certain countries, especially in Europe. Proposals to break patents would have an even more devastating consequence, as this would destroy the foundation for R&D investment. Keeping the pharmaceutical industry profitable is a safeguard for our children and grandchildren, so that they will be able to continue to benefit from the advances of innovative medicines that treat the unavoidable burden of disease.

Let me finish my letter by emphasizing that we are determined to run our business not only according to all regulatory and legal requirements but, also, in an ethical way. We have therefore adapted our control environment, dedicating additional resources in order to comply with the US Sarbanes-Oxley Act. In 2004, we have not only enforced guidelines regarding internal conduct in our business activities but, also, started to report on cases of misconduct that we do discover, as transparency combined with adequate training is the most effective way to discourage misbehavior.

I am grateful to our associates, who have done an outstanding job during the past year, allowing Novartis to achieve excellent results and to improve the lives of many patients across the globe. I'd particularly like to mention the efforts of our associates to aid emergency relief programs following the recent earthquake and tsunamis that caused such immense destruction and suffering in Southeast Asia and the eastern coast of Africa. During the coming months, we will continue to cooperate closely with governments and non-governmental organizations to insure that our medicines and donations reach people in need in the affected areas.

I also wish to thank you, our Novartis shareholders, for your continued confidence in us.

Sincerely,

Daniel Vasella, M.D.
Chairman and Chief Executive Officer

Pharmaceuticals

Key figures

	2004	2003
	(in USD millions unless indicated otherwise)	
Net sales	**18 497**	16 020
Operating income	**5 253**	4 423
Research and development	**3 480**	3 079
Research and development as % of net sales	**18.8**	19.2
Free cash flow	**5 436**	4 690
Net operating assets	**9 496**	8 969
Investments in property, plant & equipment	**716**	771
Number of employees	**47 325**	44 640

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Double-digit Pharmaceuticals Growth

Pharmaceuticals Division outpaces the global market with double-digit net sales growth of 15% (+10% in local currencies). Global market share increases to 4.50% from 4.42%.

Positive Margin Development

Operating income expands faster than net sales as operating margin expands 0.8 percentage point, to 28.4% of net sales. Strong organic growth and productivity initiatives continue to support improved profitability.

Five Blockbuster Brands

Five top-ranked medicines in key market segments achieve net sales of more than USD 1 billion in 2004, led by *Diovan*, *Gleevec/Glivec* and *Zometa*. Novartis on track to deliver seven blockbusters by 2008 through dynamic growth of young product portfolio.

Cardiovascular and Oncology Driving Growth

Novartis ranks as one of the largest and fastest-growing pharmaceutical companies in oncology, while *Diovan* and *Lotrel* are leading medicines in the fight against high blood pressure.

Highly Rated Pipeline

Strategically balanced development portfolio focuses on promising therapeutic areas, both in terms of innovative compounds and new indications for in-market products.

Strong Patent Position

Novartis is consistently ranked as having one of the industry's lowest exposures to competition from generics during the next five years, reflecting the launch of 13 new medicines in the US since 2000.

Research

A New Frontier in Drug Discovery

"The greatest opportunities in science today, its very frontier, lie in the discovery of new medicines," says Mark C. Fishman, M.D., the cardiologist and geneticist who is President of the Novartis Institutes for BioMedical Research (NIBR). "Using the words revealed through modern genetics and chemistry, we can today begin to write the new grammar for drug discovery."

The need is certainly great. Although the average American's lifespan has increased by two years since 1986, with modern medications accounting for over 40 percent of the improvement and raising the quality of life for millions[(1)], all physicians are keenly aware of the extreme limitations of their pharmaceutical armamentarium in treating their patients effectively and safely. NIBR scientists have the core goal of helping these patients, and the core belief that the time is now.

(1) Source: Frank Lichtenberg. National Bureau of Economic Research, 2003

NIBR encompasses the global research activities of Novartis. Primary NIBR sites include Basel, Switzerland; Horsham, UK; Vienna, Austria; Tsukuba, Japan; and the new global headquarters in Cambridge, Massachusetts, US. These sites function as a single scientific institute, because modern science reveals that apparently distinct diseases share fundamental causes, e.g., a medicine designed for transplantation therapy may well have important uses in cancer. Our scientific organization reflects the essential unity of scientific mechanisms. For example, in 2004, we integrated the groups that focus on diseases with similar immunological mechanisms to create a new Autoimmunity & Transplantation group.

In 2004, the Cambridge headquarters saw the completion of its flagship building and the doubling of its scientific staff. Recruiting top talent at all our global sites has proven easier than expected, due to a gratifying interest in the scientific vision and mission of NIBR.

In addition to successful recruiting and building, NIBR refocused research to take advantage of its talent and to align with the cutting edge of scientific insight into basic human biology and disease. The new organization reflects this continued emphasis on the biology of particular diseases, coupled with a firm commitment to designing, both internally and in collaboration with strategic partners, the scientific approaches that will define tomorrow's new "grammar" for drug discovery.

Integrated Programs: Diabetes and Heart Disease

More than 100 million patients worldwide suffer from a combined disorder characterized by insulin resistance and the presence of obesity, abdominal fat, high blood sugar and triglycerides, high blood cholesterol, and high blood pressure. This disorder is so common that it has been given its own name: metabolic syndrome. The blood vessels in such patients are inflamed, and vessel obstruction with heart attack or stroke, is common. Lipids in their blood are abnormal, which exacerbates the vessel disease.

Such patients are one focus of efforts in both the Cardiovascular and Diabetes disease areas. The Cardiovascular group is directed by Seigo Izumo, M.D., a cardiologist and molecular biologist recruited to NIBR last year from Harvard Medical School. The Diabetes group is led by Dr. Thomas Hughes, an expert in metabolic diseases, diabetes, and lipid disorders, who already has an impressive track record in bringing new medicines to the clinic.

Together these scientists and their colleagues are using molecular understanding of the control of lipid metabolism, vessel biology, and atherosclerosis to design a repertoire of new medicines that can treat the underlying causes of metabolic syndrome. They and their teams, working near each other in the Cambridge laboratories, share experiences learned from their very different backgrounds in academia, biotech, and pharmaceutical discovery.

In addition to metabolic syndrome, each group has other specialized, targeted research programs. For example, Dr. Izumo's group is engaged in an effort designed specifically for discovery of medicines to treat hypertension. Despite therapy, nearly 50% of patients today do not have their blood pressure controlled sufficiently to lower their risk of heart disease and stroke. The Cardiovascular group, using new knowledge of genes involved in hypertension, is investigating the possibility of an entire new range of antihypertensive agents. In this effort, Dr. Izumo is joined by a fundamental research program in Basel, led by Dr. Sylvain Cottens, a chemist experienced in the use of crystallography to guide design of medicines by understanding the atomic structure of the target protein, and by the medicinal chemists at the NIBR site in Tsukuba, Japan.

When the heart fails to pump adequately, whether because of heart attacks, hypertension or other causes, today's medicines offer only limited palliation. Yet we do know that the heart normally can adapt to such stresses. The transition from adaptation to failure is accompanied by essential molecular changes in the heart; and through an integrated program with the biotechnology company Myogen, Dr. Izumo and his team are exploring how to restore the pump function.

Dr. Hughes, in seeking novel therapies for diabetes, can examine the individual role of nearly every one of our 24 000 or so genes, in controlling cellular metabolism, using the genomic tools established by Dr. Dalia Cohen and her Functional Genomics group at NIBR. In addition, Dr. Hughes is looking to a future of medicines better tuned to individuals, through his new collaborative human gene discovery program with scientists from the adjacent Eli and Edythe Broad Institute of Harvard and MIT (see below).

These are only some examples of the breadth and depth of NIBR's scientific programs. As is evident, NIBR scientists identify strategic external opportunities that enhance their internal work, as well as expanding into additional areas of unmet medical need.

Strategic Partners

Through the Strategic Alliances group headed by Dr. Jeremy Levin, NIBR are now a global partner of choice for biotechnology companies and academic centers seeking to discover and develop drugs for a range of inadequately treated diseases. In the past year NIBR have established strong alliances with 150 partners, both academic and industrial, across the world. The location of the global NIBR headquarters in Cambridge, a world-leading center of biotechnology and academic medicine, has not only aided in recruiting world-class talent, but has led directly to innovative new research collaborations.

For example, in late 2004 NIBR announced a unique alliance with the Eli and Edythe Broad Institute of Harvard and MIT, a new academic research institute aimed at realizing the promise of the human genome to revolutionize clinical medicine, and to make knowledge widely available to scientists around the world. This new venture will establish a world-leading center of diabetes research, seeking to understand the genetic contribution to type 2 diabetes and its complications, in order to provide information relevant to clinical decisions and to pharmaceutical discovery. In this new paradigm for public-private collaboration, all data obtained will be made publicly available. In addition, NIBR scientists will work to develop and select medicines appropriate for patients based on the knowledge gained from this collaboration.

In May 2004, NIBR announced a significant strategic collaboration with the biotech company MorphoSys to discover and develop antibody-based biopharmaceuticals as therapeutic agents across a variety of diseases. "Novartis is committed to therapeutic antibodies as key weapons in the medical armamentarium alongside small-molecule drugs," says Dr. Fishman, adding that these antibodies will become increasingly important components of the already strong Novartis pipeline.

Other notable collaborations announced or refocused this year include Cubist Pharmaceuticals and Idenix (infectious disease), Vertex (oncology), and Xenon (metabolic syndrome).

All of these scientific efforts, whether internal or in collaboration with external partners, find their beginning and their end in the clinic, where patients need better therapeutic options, and need them quickly.

Translation to the clinic

Drug discovery science is fundamentally clinical science. As part of its new focus, NIBR have enhanced the role of clinician-scientists and clinical considerations in the discovery process. Newly recruited clinical experts now help examine projects from very early discovery to decide what patients might benefit most, how the new medicines might be tested safely in the clinic, and how early clinical trials might be performed expeditiously.

The Exploratory Clinical Development (ECD) group, headed by Trevor Mundel since early 2004, has worked closely with NIBR scientists to develop this new paradigm. "I was attracted to Novartis by their desire to take some of the directions in industry and academia to a logical conclusion, and work without preconceptions to find ways to improve delivery of novel therapies," he says.

Dr. Donald Johns, who joined ECD in mid-2004 as Head of Translational Medicine, Neuroscience and Ophthalmology, says he was drawn to this opportunity because of the "commitment of NIBR to translating the recent explosion in understanding of the brain into great new medicines for patients suffering neurological or psychiatric illness."

Looking Ahead

In coming years NIBR aim to keep the Novartis pipeline full through internal programs and external collaborations, as their scientists work to devise the new grammar for drug discovery, one that will capture the promise of the genome and of other major advances in the fundamental and medical sciences.

Development

The Novartis pipeline holds a broad stream of promising future products, with 52 projects in Phase II and beyond as of December 2004, including both new molecular entities and additional indications or formulations for marketed products.

Glossary of terms:

Compound

Molecular entity.

Generic name

Designation assigned to compound.

Indication

A disease or condition for which a particular drug is believed to be an appropriate therapy.

Phase II

Clinical trials in patients to determine dose ranging, safety and efficacy.

Phase III

Large clinical trials to determine definitive safety and efficacy in patients.

Filed

In registration.

Therapeutic area	Project/compound	Generic name	Indication
Cardiovascular and metabolism	***Diovan***	valsartan	Congestive heart failure
	***Diovan* VALIANT**	valsartan	Post-myocardial infarction
	Lotrel 10-40, 5-40	benazepril, amlodipine	Hypertension
	NAVIGATOR[1]	valsartan, nateglinide	Progression to type 2 diabetes
	***Lotrel* ACCOMPLISH**	benazepril, amlodipine	High-risk hypertension
	SPP100	aliskiren	Hypertension
	LAF237	vildagliptin	Type 2 diabetes
	NKS104	pitavastatin	Dyslipidemia
Oncology & Hematology	***Zometa***	zoledronic acid	Bone metastases
	Femara	letrozole	Breast cancer (extended adjuvant therapy)
	Femara	letrozole	Breast cancer (early adjuvant therapy)
	ICL670	deferasirox	Chronic iron overload
	PTK787	vatalanib	Solid tumors
	Gleevec/Glivec	imatinib mesylate	Solid tumors
	OctreoTher	edotreotide	Somatostatin receptor-positive tumors
	EPO906	patupilone	Solid tumors
	PKC412	midostaurin	Acute myeloid leukemia
	SOM230		Acromegaly, GEP[2] neuroendocrine tumors
	LBQ707	gimatecan	Solid tumors
	RAD001	everolimus	Solid tumors
	AMN107		Chronic myeloid leukemia
Neuroscience	***Focalin XR***	dexmethylphenidate	Attention deficit disorders
	Exelon TDS	rivastigmine	Alzheimer's disease
	Exelon	rivastigmine	Non-Alzheimer's dementia
	Trileptal	oxcarbazepine	Neuropathic pain
	LIC477	licarbazepine	Bipolar disorder
	AMP397		Epilepsy
	SAB378		Neuropathic pain
	FTY720		Multiple sclerosis
Transplantation & Immunology	***Certican***	everolimus	Prevention of organ rejection
	FTY720		Prevention of organ rejection
Respiratory & Dermatology	***Lamisil***	terbinafine	Tinea capitis
	Foradil	formoterol	Asthma
	Xolair	omalizumab	Asthma
	QAB149		Asthma/COPD[3]
	Elidel	pimecrolimus	Inflammatory skin diseases
	ASM981	pimecrolimus	Inflammatory skin diseases
Arthritis, bone, gastrointestinal diseases, HRT[5] and urinary incontinence	***Prexige***	lumiracoxib	Acute pain
	Zelnorm/Zelmac	tegaserod	Irritable bowel syndrome
	***Aclasta*[6]**	zoledronic acid	Paget's disease
	Aclasta	zoledronic acid	Osteoporosis
	Zelnorm/Zelmac	tegaserod	Dyspepsia
	Zelnorm/Zelmac	tegaserod	Gastroesophageal reflux disease
	Aclasta	zoledronic acid	Rheumatoid arthritis
	AAE581	balicatib	Osteoporosis
	SMC021	calcitonin	Osteoporosis
Ophthalmics	***Visudyne***	verteporfin	AMD[4] (occult)
	Visudyne	verteporfin	AMD[4] (minimally classic)
	Lucentis	ranibizumab	AMD
	Sandostatin LAR	octreotide acetate	Diabetic retinopathy, other indications
	Elidel	pimecrolimus	Ophthalmic indications
Infectious diseases	**LDT600**	telbivudine	Hepatitis B
	LDC300	valtorcitabine	Hepatitis B

(1) NAVIGATOR trial examining combination therapy of *Diovan* and *Starlix*.

(2) Gastroenteropancreatic.

(3) Chronic obstructive pulmonary disease.

(4) Age-related macular degeneration.

(5) Hormone replacement therapy.

(6) Zoledronic acid (5mg) is authorized to be marketed under the name Aclasta in Europe and is awaiting US approval of the name.

Mechanism of action	Formulation	Planned filing dates	Phase I	Phase II	Phase III	Filed
Angiotensin-II receptor blocker	Oral	Filed (EU)				
Angiotensin-II receptor blocker	Oral	Filed				
ACE inhibitor/calcium channel blocker	Oral	Filed (US)				
	Oral	>2007				
ACE inhibitor/calcium channel blocker	Oral	>2007				
Renin inhibitor	Oral	2006				
Dipeptidyl peptidase (DPP-4) inhibitor	Oral	2006				
HMG CoA reductase inhibitor	Oral	>2007				
Bisphosphonate, osteoclast inhibitor	Intravenous	Filed (Japan)				
Nonsteroidal aromatase inhibitor	Oral	Filed (EU)				
Nonsteroidal aromatase inhibitor	Oral	2005				
Iron chelator	Oral	2005				
Tyrosine kinase inhibitor	Oral	2005				
Tyrosine kinase inhibitor	Oral	2007				
Radiation therapy	Intravenous	tbd				
Microtubule depolymerization inhibitor	Intravenous	2007				
Protein kinase inhibitor	Oral	>2007				
Somatostatin (sst) 1/2/3/5 binder and hormone inhibitor	Intravenous	2007				
Topoisomerase-I inhibitor	Oral	2007				
Growth-factor-induced cell proliferation inhibitor	Oral	>2007				
Tyrosine kinase inhibitor	Oral	>2007				
Dopamine transport blocker	Oral	Filed (US)				
Cholinesterase inhibitor	Transdermal	2006				
Cholinesterase inhibitor	Oral	2005				
Voltage-dependent sodium current blocker	Oral	2007				
Voltage-dependent sodium current blocker	Oral	2007				
AMPA receptor antagonist	Oral	>2007				
Cannabinoid-1 receptor agonist	Oral	>2007				
Sphingosine-1-phosphate receptor agonist	Oral	>2007				

Mechanism of action	Formulation	Planned filing dates	Phase I	Phase II	Phase III	Filed
Growth-factor-induced cell proliferation inhibitor	Oral	Filed (US)				
Sphingosine-1-phosphate receptor agonist	Oral	2006				
Fungal squalene epoxidase inhibitor	Oral	2006				
Long-acting beta-2 agonist	Dry powder for inhalation	Filed				
Anti-IgE monoclonal antibody	Subcutaneous	Filed (EU)				
Long-acting beta-2 agonist	Inhalation	2007				
T-cell and mast cell inhibitor	Ointment	2006				
T-cell and mast cell inhibitor	Oral	tbd				
Cyclo-oxygenase-2 inhibitor	Oral	Filed (EU), 2007 (US)				
5HT4-receptor agonist	Oral	Filed (EU)				
Bisphosphonate: osteoclast inhibitor	Intravenous	Filed				
Bisphosphonate: osteoclast inhibitor	Intravenous	2007				
5HT4-receptor agonist	Oral	2006				
5HT4-receptor agonist	Oral	2007				
Bisphosphonate: osteoclast inhibitor	Intravenous	>2007				
Cathepsin K inhibitor	Oral	>2007				
Regulator of calcium homeostasis	Oral	>2007				
Photosensitizer for photodynamic therapy	Intravenous	2005				
Photosensitizer for photodynamic therapy	Intravenous	tbd				
VEGF blocker	Intra-vitreal	2006 (EU)				
Growth hormone + IGF-1 inhibitor	Intramuscular	2005				
T-cell and mast cell inhibitor	Eye drops	>2007				
Viral polymerase inhibitor	Oral	2005				
Viral polymerase inhibitor	Oral	>2007				

FTY720

GENERIC NAME	**tbd**
INDICATION	**prevention of organ rejection, multiple sclerosis**
MECHANISM OF ACTION	**S1P-R agonist**

FTY720 is the first immunomodulator (S1P-R agonist[(1)]) that works by reversibly sequestering lymphocytes away from blood and susceptible target organs, including the central nervous system, without compromising the functional immune response.

(1) Sphingosine-1-phosphate receptor agonist.

FTY720 is being tested in Phase III clinical studies for the prevention of acute rejection in kidney transplantation. Its mode of action suggests that FTY720 is synergistic with traditional immunosuppressants, paving the way to combinations which may allow for reductions of dosages and minimization of side effects.

FTY720 is also being tested in multiple sclerosis, a devastating and common neurological disease, in which lymphocytes attack the coating that surrounds and protects nerve fibers. As a once-daily capsule, FTY720 offers an exciting new approach to MS. The medicine has demonstrated efficacy in a Phase II clinical study evaluating its effect on MRI lesion parameters. Based on these encouraging results, Novartis will launch its Phase III clinical trial program in 2005.

ICL670

GENERIC NAME	**deferasirox**
INDICATION	**iron overload**
MECHANISM OF ACTION	**iron chelator**

ICL670 is an iron chelator used to treat iron overload, a frequent and serious side effect of regular blood transfusions. More than 250 000 people worldwide are estimated to require frequent blood transfusions to treat conditions such as thalassemia, sickle cell disease and myelodysplastic syndrome. Of this patient group, more than 100 000 people require an iron chelator to avoid dangerous iron overload.

Desferal, a Novartis treatment, has been the gold standard of iron chelation for decades. However, *Desferal* is burdensome to administer requiring infusions via a portable pump for up to 12 hours a day, five to seven days per week. Many patients are unable to adhere to such a demanding, lifelong treatment regimen.

ICL670 is a dispersible tablet, administered once daily. By offering patients greater convenience, the new therapy could increase treatment compliance, leading to better health outcomes and overall patient quality of life.

Results from Phase II and Phase III clinical studies showed that once-daily ICL670, at doses of 20 and 30 mg/kg, is effective at maintaining or reducing liver-iron content in patients undergoing regular transfusions.

ICL670 was generally well tolerated in these studies and no unmanageable toxicities were observed.

LAF237

GENERIC NAME	**vildagliptin**
INDICATION	**type 2 diabetes**
MECHANISM OF ACTION	**incretin enhancer (DPP-4 inhibitor)**

LAF237 is the first of a new class of "incretin enhancers" oral antidiabetic agents that act by inhibiting an enzyme called dipeptidyl peptidase-4 or DPP-4. Now undergoing Phase III trials for the treatment of type 2 diabetes, LAF237 has the potential to modify the disease.

Already considered an epidemic in the US, diabetes is on the rise globally among men and women of all ages, ethnic groups and levels of education. The World Health Organization estimates that 170 million people currently suffer from diabetes. Prevalence is expected to double, to 366 million people, by 2030.

Type 2 diabetes is a disorder leading to elevated levels of glucose in the blood. Glucose is the principal source of energy for cellular metabolism. Normally, as blood glucose levels climb after a meal, insulin is secreted by pancreatic beta cells to absorb glucose into cells and return levels in blood to the normal range. In people with type 2 diabetes, this uptake of glucose into cells is impaired either as a result of insufficient insulin production, or because tissue in muscle develops abnormal resistance to insulin.

Incretins are hormones that play a critical role in regulation of insulin and hence blood glucose. Following a meal, the incretin hormones GLP-1 (glucagon-like peptide 1) and GIP (gastric inhibitor polypeptide) are secreted from the intestine and stimulate secretion of insulin by beta cells. In healthy people, GLP-1 triggers the release of enough insulin to restore blood sugar levels to normal. The feedback system controlling insulin release is exquisitely sensitive after a half-life of only 90 seconds, GLP-1 is degraded by the DPP-4 enzyme.

However, people with type 2 diabetes need GLP-1 and insulin to last longer to decrease elevated glucose levels in their blood. LAF237 works by inhibiting DPP-4, to delay degradation of GLP-1, and extend the action of insulin.

Phase II data presented at last year's annual meeting of the American Diabetes Association showed that LAF237 significantly improved blood glucose control when added to metformin, a standard treatment for type 2 diabetes. The significant decrease in HbA1c, the primary measure of blood glucose control, was maintained for one year.

Phase III trials are studying LAF237 as both monotherapy and in combinations. Initial data from the Phase III studies are expected during the latter part of 2005.

LAF237 also has a disease-modifying potential through its beneficial effects on pancreatic beta cells. In animal studies, LAF237 has shown a positive effect on insulin secretion by increasing the genesis, proliferation and differentiation of beta cells, while inhibiting apoptosis, or programmed death, of these cells.

LDT600

GENERIC NAME	**telbivudine**
INDICATION	**hepatitis B infection**
MECHANISM OF ACTION	**viral polymerase inhibitor**

LDT600 is an oral, once-daily treatment now in Phase III clinical trials for treatment of infections by the hepatitis B virus (HBV). LDT600 is a joint development program with Idenix Pharmaceuticals Inc., a Novartis affiliate based in Cambridge, MA.

Hepatitis B is a major disease and serious global public health problem. Despite global immunization programs against HBV, the World Health Organization estimates that more than 350 million people are chronically infected. China is the country hardest hit by HBV with an estimated 120 million chronic carriers of the virus.

Chronic hepatitis B infection can lead to cirrhosis, liver failure and liver cancer. According to the WHO, more than a million people die each year from HBV-related chronic liver disease, underscoring the urgent need for new treatments.

Results of a Phase IIB study presented last year showed that patients treated with LDT600 achieved significantly greater reduction of HBV replication compared with lamivudine, the current gold standard of treatment. Study data also indicated a correlation between rapid and significant antiviral activity seen in patients treated with LDT600, and markers of improved clinical benefit at one year.

The ongoing Phase III trial, called GLOBE, also is a head-to-head comparision against lamivudine. With the participation of more than 1 350 patients at sites in more than 20 countries, including China, GLOBE is the biggest hepatitis B registration trial to date. Patient enrollment was completed ahead of schedule in April 2004, and worldwide regulatory applications are expected to be filed by the end of this year.

QAB149

GENERIC NAME	**tbd**
INDICATION	**asthma & COPD**
MECHANISM OF ACTION	**long-acting beta-2 agonist**

QAB149 is a long-acting beta-2 agonist under development for treatment of asthma and chronic obstructive pulmonary disease (COPD), a progressive disease of the airways that is one of the leading causes of disability and death worldwide.

In Phase II trials, QAB149 demonstrated strong efficacy in both asthma and COPD; onset of action was rapid, i.e., within 5 minutes. Duration of efficacy was also strong. In asthma and COPD patients, bronchodilation was maintained for 24 hours on a single dose, and efficacy was not diminished by repeated administration. Safety was comparable to placebo.

PTK787

GENERIC NAME	**vatalanib**
INDICATION	**solid tumors**
MECHANISM OF ACTION	**tyrosine kinase inhibitor**

PTK787 is an oral, targeted inhibitor of angiogenesis, the creation of new blood vessels that is essential for growth of tumors and metastasis, or spread of malignant cells to distant parts of the body. PTK787 has been designed to enhance survival in patients with colorectal cancer.

A joint development with Schering AG of Germany, PTK787 is currently in Phase III development for first-line and second-line metastatic colorectal cancer. In 2000, colorectal cancer was the third most commonly reported cancer, accounting for nearly a million cases worldwide.

PTK787 has the potential to be a highly effective inhibitor of angiogenesis by its unique mechanism of action blocking the action of all known forms of vascular endothelial growth factor (VEGF), a known regulator of angiogenesis. Levels of VEGF are more frequently elevated in metastatic cancers, indicating a poorer disease prognosis.

PTK787 also selectively targets platelet-derived growth factor (PDGF), another regulator of angiogenesis found frequently in malignant tumors.

The ongoing Phase III clinical trials, involving nearly 2 000 patients, are known as the CONFIRM studies and compare PTK787 combined with the emerging standard chemotherapy of oxaliplatin/5FU/Lv (FOLFOX) versus FOLFOX alone.

CONFIRM 1 is testing PTK787 as first-line treatment, with endpoints of progression-free survival, and overall survival. In CONFIRM 2, PTK787 is being used as second-line treatment of colorectal cancer, with overall survival as the primary endpoint.

Data on progression-free survival in CONFIRM 1 are expected during mid-2005.

Novartis and Schering agreed in 2004 to develop PTK787 for the treatment of "wet" age-related macular degeneration (AMD), an eye condition that can cause vision loss.

(Note: vatalanib is also known by the research number ZK222584)

SPP100

GENERIC NAME	**aliskiren**
INDICATION	**hypertension**
MECHANISM OF ACTION	**renin inhibitor**

SPP100 is a first-in-class, oral renin inhibitor currently in Phase III clinical trials for treatment of hypertension. In addition to use as monotherapy, SPP100 is also being studied as a combination therapy with *Diovan*. Renin inhibition the first new mechanism in the treatment of hypertension in a decade targets the renin-angiotensin system, a chemical cascade that functions as a key regulator of blood pressure in the body. SPP100 acts at an earlier stage of the renin-angiotensin cascade and affects different biological components than either angiotensin II receptor blockers (ARBs) or ACE inhibitors, two successful classes of antihypertensive medicines.

There still is considerable unmet medical need in treatment of hypertension, and a large and growing patient population. Less than half of people with hypertension receive treatment and only about one-third effectively control their blood pressure with medication.

SPP100 could be of benefit to patients by reducing feedback mechanisms associated with existing classes of antihypertensives. It could also complement existing treatments with different mechanisms of action and provide additional benefits when used in combinations.

In contrast to other antihypertensives, SPP100 lowers the activity of the enzyme renin in the bloodstream, and may have the potential to better protect patients from heart attacks.

In a Phase II/III study, SPP100 has confirmed its competitive efficacy, and data suggest benefits of the combination of SPP100 and *Diovan*.

Gleevec/Glivec

GENERIC NAME	**imatinib mesylate**
INDICATION	**chronic myeloid leukemia (CML), solid tumors**
MECHANISM OF ACTION	**tyrosine kinase inhibitor**

AMN107

GENERIC NAME	**tbd**
INDICATION	**chronic myeloid leukemia**
MECHANISM OF ACTION	**tyrosine kinase inhibitor**

Since its maiden approval for treatment of chronic myeloid leukemia (CML) in 2001, our breakthrough, targeted anti-cancer treatment *Gleevec/Glivec* has improved the prognosis of patients with CML, as well as certain forms of gastrointestinal stromal tumor (GIST).

The average daily dose of *Gleevec/Glivec* in treatment of CML has climbed steadily, reflecting clinical data demonstrating that patients receiving 800 mg/day for one year achieved higher rates of complete cytogenetic responses than patients given the standard 400 mg/day dose. A complete cytogenetic response is the elimination of cells containing the genetic abnormality that characterizes most cases of CML. That response is a major goal of therapy. Last year, a large trial demonstrated that patients receiving an 800 mg daily dose of *Gleevec/Glivec* for treatment of certain forms of GIST had significantly longer progression-free survival than patients taking the standard 400 mg daily dose. In GIST, *Gleevec/Glivec* targets the overactive, uncontrolled mutant form of the KIT enzyme which triggers runaway growth of GIST tumor cells.

Preclinical research has validated the mechanism of action and demonstrated the efficacy of *Gleevec/Glivec* against several other molecular targets related to cancers. For these targets, *Gleevec/Glivec* either blocks signal transduction in tumor cells, or alters the tumor environment, e.g., by lowering tumor interstitial fluid pressure to increase uptake of chemotherapeutic agents.

Phase II clinical trials are underway testing *Gleevec/Glivec* in combination therapies as treatment for several hematological cancers and solid tumors. Current experience shows that *Gleevec/Glivec* is well tolerated in combination with docetaxel in the treatment of hormone-refractory prostate cancer. In addition, evaluation of a combination of *Gleevec/Glivec* and hydroxyurea in treatment of refractory glioblastoma, or brain cancer, is ongoing.

Separately, AMN107, a next-generation tyrosine kinase inhibitor, has entered development. AMN107 has shown efficacy in treatment of patients with CML resistant to *Gleevec*.

Extending Hope for Breast Cancer Survivors

It takes time and tenacity to translate the results of a clinical trial into new medical practice and, ultimately, a bona fide public health benefit. Even a landmark study like MA-17 is no exception.

MA-17 made headlines in October 2003. Results published in the *New England Journal of Medicine* showed *Femara* had reduced the risk of tumor relapse by 43% in postmenopausal women with hormone-receptor-positive breast cancer who had completed five years of post-surgery treatment with tamoxifen.

Last year, grassroots education and advocacy campaigns on both sides of the Atlantic raised awareness about "extended adjuvant" therapy with *Femara,* and the possibility for women to stay cancer-free. This new indication has been approved in major markets including the US, the UK and Switzerland but the outreach to patients and physicians is still picking up momentum.

Sandra Hazra, M.D., is a medical oncologist and hematologist. She is Senior Attending Physician at Akron General Medical Center in Akron, Ohio as well as Assistant Professor of Medicine at Northeastern Ohio University College of Medicine.

Dr. Hazra is also a breast cancer survivor and one of more than 5 000 women who participated in the MA-17 study. That unusual status as both patient and physician gives her a special perspective on the study and the new treatment option.

First and foremost, there is elation over the positive outcome. "The fact that I have less chance of having a relapse thanks to this drug helps me to put my diagnosis in the background and not have to hold it in my consciousness all the time," Dr. Hazra says. "And being a breast cancer survivor has allowed me to work a little differently with my patients than I could have without this experience."

Yet the pursuit of science isn't always an easy sell and Dr. Hazra considers the decision to join MA-17 one of the most difficult she has ever made. To document the effect of treatment with *Femara,* MA-17 was "placebo-controlled" which means that only half of participants received the active drug while the other half took sugar pills. "It was so difficult because I know the science; obviously we think the drug is better, yet here I may be taking a sugar pill. Was there a comfort level? No."

In the end, like thousands of other women who took part in MA-17, she was swayed by the opportunity to advance knowledge about the disease. "Everything that I do every day with patients I treat every life that I've saved or prolonged, including my own is based on data generated by a clinical trial. So when they asked me to participate, I knew I had to do it. That's how we advance."

Science Underpinning Hope

The results of MA-17 hold promise for hundreds of thousands of breast cancer survivors around the world who complete tamoxifen therapy every year.

"This was science finally underpinning hope," says Deborah Dunsire, M.D., Senior Vice President and North American region head at Novartis Oncology. "Any woman who had finished five years of tamoxifen before MA-17 had no further treatment options available. All she had left was hope."

The initial challenge after publication of MA-17 was to gain regulatory approval for the new indication. Since *Femara* was already approved in most major markets for treatment of advanced postmenopausal breast cancer, physicians could prescribe the drug for medically appropriate uses including extended adjuvant treatment.

"We saw even before approval that the need was great and usage of *Femara* rose very rapidly as physicians began to prescribe it in the extended adjuvant setting," Dr. Dunsire says.

To fulfill the promise of MA-17, Novartis development and regulatory teams raced to assemble study data into a format required for authorities to approve the new, "extended adjuvant" indication. Novartis Oncology submitted simultaneous worldwide filings for the new indication of *Femara* by April months earlier than expected.

The US Food and Drug Administration responded by granting a priority review and, in October, approving *Femara* for extended adjuvant treatment of postmenopausal women with early breast cancer who have received adjuvant tamoxifen therapy for five years. Approval by remaining European Union member states is expected during 2005.

Leap of Faith

With a totally new treatment option on the horizon, healthcare professionals and advocacy groups began spreading the message of MA-17 beyond the rarified circles of key opinion leaders at renowned teaching hospitals, to physicians and patients at the community level.

MA-17 posed some special challenges. The significant reduction in breast cancer recurrence and how soon the difference became apparent in the MA-17 study surprised many investigators. "I thought it would be a trial that would take many, many years to produce results," says Ian Smith, Professor of Cancer Medicine and Head of the Breast Unit at London's Royal Marsden Hospital.

"It was quite a leap of faith when MA-17 was set up," he adds. Prior evidence suggested that there was no medical therapy after standard tamoxifen that would further reduce the risk of recurrence.

In fact, MA-17 surpassed its clinical objectives nearly two years ahead of schedule, prompting an independent Data, Safety and Monitoring Committee to recommend that the trial be modified immediately for ethical reasons. Nearly 2 600 participants in the trial's placebo arm were offered a chance to "cross over" to treatment with *Femara*.

The mechanism of action of *Femara* differs from that of tamoxifen. *Femara* belongs to a class of compounds called aromatase inhibitors that block the action of the enzyme responsible for converting androgen to estrogen in cells. In postmenopausal women, this conversion of androgen is the primary source of estrogen, the hormone that spurs growth of estrogen-receptor-positive tumors.

Aromatase inhibitors can decrease levels of circulating estrogen in postmenopausal women by up to 90%, making the new medicines more effective than tamoxifen.

Yet, until the aromatase inhibitors proved their mettle in clinical trials, not much attention was devoted to recurrence of breast cancer following standard tamoxifen treatment. According to Dr. Smith, breast cancer specialists "have not quite appreciated how big the risk of recurrence actually is." He cites studies showing that there are just as many relapses after five years of treatment with tamoxifen as during the standard five years of postsurgery adjuvant therapy.

"As long as we didn't have any solution to the problem, we certainly didn't make a big issue of it," Dr. Smith adds. "There was no point in just worrying patients."

Careful Explanation and Science

Dr. Hazra has found her patients curious and anxious to learn but the need for information is still great. "It takes patient explanation and it takes science," she says.

A small proportion of her patients roughly 5% approach Dr. Hazra with questions about extended adjuvant therapy. Roughly a quarter of patients have at least heard about the new treatment option. But a clear majority aren't yet familiar with the MA-17 study, or extended adjuvant therapy. And sometimes, Dr. Hazra says, patients are reluctant to consider further treatment.

"We're expressing a concern to these women that they still have risk and that reawakens fear and apprehensions," she adds. "Even though we've now got a good way to prolong survival, some don't want to deal with it again and simply refuse to consider further treatment."

Once the true benefit is carefully explained, however, "most women are reassured that this is a positive thing and not something to fear. And they are grateful for the chance to take *Femara* and diminish their risk by this really enormous amount," Dr. Hazra says.

Patient Advocacy

Novartis has worked closely with health professionals and patient advocacy groups around the world to provide information about the MA-17 study and extended adjuvant therapy. Teleconferences hosted by US patient organizations such as Living Beyond Breast Cancer and Cancer Care have reached thousands of women presenting the data from MA-17 and addressing some of the most common questions about extended adjuvant therapy.

Novartis also forged an important partnership with the Avon Foundation to support awareness of breast cancer. The agreement included the launch of Ribbon of Pink, a web-based educational program, as well as national sponsorship of Avon Walk for Breast Cancer fundraising events.

Avon launched its Breast Cancer Crusade in 1992 and supports breast cancer programs in more than 50 countries today. It has raised and awarded more than USD 350 million to fund research, provide access to care and support the medically underserved. Novartis and Avon are exploring possibilities to expand Ribbon of Pink into Russia, and other countries as well.

Thousands of physicians across Europe have attended medical education programs devoted to the MA-17 study and extended adjuvant therapy. There has been a special focus on office-based gynecologists, who often are responsible for post-surgery treatment of breast cancer patients in countries ranging from Spain and France, to Germany and Switzerland.

National treatment guidelines issued by the German Cancer Society now recommend use of *Femara* in extended adjuvant treatment after the standard five-year treatment with tamoxifen. The influential Danish Breast Cancer Study Group also has issued new guidelines, recommending that *Femara* treatment be used for at least 2.5 years after the standard five years of tamoxifen to prevent recurrence of breast cancer.

In the US, the National Comprehensive Cancer Network (NCCN) and the American Society of Clinical Oncology (ASCO) have issued guidelines that support the use of *Femara* in the extended adjuvant setting.

In June, Novartis hosted the first global breast advocacy summit in Milan, attended by patient groups from more than 40 countries. Patient advocacy in Europe is becoming increasingly effective through regional organizations like Europa Donna, a coalition of 32 national breast cancer groups across Europe. Like its American cousins, Europa Donna is beginning to play a more active role in breast cancer research, for example as a member of steering committees for major clinical studies.

Disease-free Survival Benefit

Meanwhile, the trans-Atlantic network of cooperative clinicaltrial groups that conducted MA-17 continues to treat participants, as well refining analysis of data from the study.

At a special Best of Oncology session of the 2004 ASCO annual meeting, Paul Goss, M.D., the international chair of MA-17, presented data based on median 2.5-year follow-up. While there was no overall survival advantage, there was a significant survival benefit in a subset analysis of node-positive patients. (Node-positive patients had tumors which had spread to the lymph nodes by the time of diagnosis.)

It was the first time that a survival difference had been shown with any anticancer agent after five years of tamoxifen.

The lymph-node-positive group comprised about 50% of all MA-17 participants and the survival benefit observed seemed to result from a significant 40% reduction of distant breast cancer recurrences following extended adjuvant therapy. Distant metastases are a well-established risk factor for breast cancer death.

"So now we already have a very hard endpoint a proportion of women live longer when they have treatment versus when they do not," Dr. Dunsire says. "And that, ultimately, is the goal of every oncologist. Despite the fact that MA-17 was modified, you can see the continued benefit of treatment."

Novartis and the cooperative clinical trial groups are planning an extension of the original study to determine optimal duration of post-tamoxifen treatment with *Femara*. Participants who complete five years of extended adjuvant therapy with *Femara* ten years of hormonal treatment overall will be re-randomized to either continued *Femara* treatment or a placebo group.

And while definitive results of the MA-17 "re-randomization" study probably won't be available for several more years, data are expected this year from another landmark trial with *Femara*.

Known as BIG 1-98 and involving more than 8 000 patients, that study is a head-to-head comparison of *Femara* and tamoxifen in "early adjuvant" therapy, the initial five-year treatment period after surgery, where tamoxifen has long been considered the gold standard. BIG 1-98 also is testing sequential variations of *Femara* and tamoxifen during the five-year treatment period.

Encouraging results from MA-17 and other recent clinical trials involving aromatase inhibitors have intensified interest in their usage in early adjuvant therapy, as well as the optimal duration and sequence of treatment.

"*Femara* is the only aromatase inhibitor to have consistently superior data in certain measures, compared to tamoxifen," says Brian Gladsden, Global Brand Leader for *Femara*. "The BIG 1-98 trial will provide further support that *Femara* is the best aromatase inhibitor and will ultimately tell us in what sequence *Femara* should be used to achieve the best outcome."

Blood Pressure in the Control Zone

Hypertension is a public health crisis, affecting roughly 65 million people in the US and an estimated 1 billion people worldwide.

The relationship between high blood pressure and risks of other cardiovascular events is well established. New US government guidelines known as JNC7 acknowledge the serious risks of even slight elevations in blood pressure and recommend earlier and more aggressive treatment.

Yet only about one-third of Americans with hypertension have their condition under control even though effective medications are available.

Last year, Novartis and allies including the American Society of Hypertension (ASH) and the American Nurses Association (ANA) launched a national education and awareness campaign, challenging patients and physicians across America to "*Take Action for Healthy Blood Pressure*."

"Failure to take action is no longer an option," says Paulo Costa, Head of Novartis Pharmaceutical Region Americas and Chief Executive Officer of Novartis Pharmaceuticals Corp., our US unit. "*Take Action for Healthy BP* is a national initiative to fundamentally change the way blood pressure is perceived in America."

There is a pressing need for change. One American dies every 12 minutes as a direct result of high blood pressure, and 30 Americans die every hour from complications of hypertension.

Yet effective blood pressure control can be achieved in most patients. And in clinical trials, antihypertensive therapy has been associated with average reductions of up to 40% in the incidence of stroke, 25% in the incidence of heart attacks and up to 50% in the incidence of heart failure.

Novartis is ideally positioned to lead the charge. *Diovan* and *Lotrel* are two of the most effective and fastest-growing antihypertensive therapies available in the US. Reflecting another JNC7 recommendation that a majority of patients with high blood pressure will require two or more antihypertensive drugs to achieve effective control the franchises of *Diovan* and *Lotrel* include increasingly popular combination treatments with at least four different mechanisms of action. (While these Novartis medicines are indicated for the treatment of hypertension, they are not approved to treat heart attacks, strokes or renal disease.)

Changing Perceptions

The primary focus of the *Take Action for Healthy BP* program is patient education seeking to change perceptions about high blood pressure, and to promote early diagnosis and effective treatment of the "silent killer." The broad scope of activities is as diverse as the millions of patients Novartis and its partners are trying to reach.

From late September through November, the ANA embarked on a 10-city bus tour, crisscrossing America from Seattle to Tampa and Phoenix to Philadelphia, to provide free blood pressure screening and counseling on the new JNC7 treatment guidelines to more than 4 000 consumers. More than 350 nurse volunteers donated their time and shared their passion about achieving a healthy blood pressure goal.

Susan Krupnick, President of the Massachusetts Association of Registered Nurses and a volunteer during the ANA tour's two-day stint in Boston, has hypertension herself. She is convinced that greater compliance with JNC7 guidelines is needed throughout the country.

"Nurses felt this was a really great opportunity to get out and make people aware that they should be partners in their health care not just passive victims any more," Ms. Krupnick says.

Novartis supported the ANA tour and other disease awareness projects in conjunction with the *Take Action for Healthy BP* program. But at the same time, the company is attempting to remove other types of barriers to treatment. More than 170 000 patients who have enrolled in the program received a free 30-day supply of Diovan, Diovan HCT, or Lotrel. Participants are entitled to a money-back guarantee covering all out-of-pocket expenses if, after taking the maximum dose of Diovan HCT or Lotrel for at least 30 days, their blood pressure isn't controlled to the target level set by their health care professional. "There's nothing for a patient to lose by trying," Mr. Costa says.

One of the first enrollees was Matthew Russomanno, a retired high school teacher and guidance counselor from Newark, New Jersey. "*Take Action for Healthy BP* has definitely made me more aware of my blood pressure and what I can do about it," Mr. Russomanno says.

"One thing the program emphasizes is exercise for at least 30 minutes a day which I do. I also monitor my blood pressure at home and keep a diary of the results, which I discuss with my family physician."

Many of Mr. Russomanno's friends fret about their blood pressure, "and I suggest sometimes that they get involved in *Take Action for Healthy BP*," he adds. And though Mrs. Russomanno doesn't have hypertension, she tracks her blood pressure regularly with the Omron® blood pressure monitor that her husband obtained with a rebate through the program.

The participation of both ANA and ASH in *Take Action for Healthy BP* is solely educational and does not imply either organization's endorsement of any specific medication, equipment or company.

But the partners clearly share a sense of urgency about the mounting prevalence of hypertension in the US, a trend likely to continue as the population ages. "I think the program has been one of the real milestone developments in trying to re-interest people in blood pressure," says Thomas D. Giles, M.D., President of ASH and a Professor of Medicine and Director of Cardiovascular Research at Louisiana State University.

"The program addresses an incredibly important issue and it has been done in a way that brings credit to Novartis and to the pharmaceutical industry as a whole," Dr. Giles adds. "Industry, government and learned societies are natural allies and we can move things forward when we consolidate our efforts."

Traffic Ticket

Take Action for Healthy BP builds on insights collected by Novartis during more than 3 000 in-depth interviews with physicians and patients. The challenge of hypertension starts with diagnosis many people don't realize they have high blood pressure because the disorder is effectively asymptomatic.

"This is a disease that doesn't have any apparent symptoms. People don't feel bad and consequently they don't have the same motivation to seek treatment for hypertension as for some other diseases," Mr. Costa says.

The absence of symptoms helps explain another perplexing feature of hypertension many patients resist treatment after being diagnosed. "We began to realize that patients, especially Baby Boomers, were pushing back because they felt they were 15 to 20 years younger than they really are, and that the threat of stroke or heart attack seems to be something too far into the future to impact them personally," Mr. Costa muses. "They see a prescription almost like getting a traffic ticket that they are being penalized for not exercising, or losing the weight they'd been told to lose."

John Wood, M.D., a family practitioner based in Richardson, Texas, has made similar observations. "I see a lot of denial in our practice patients in their 40s or 50s who say hypertension is an illness their parents, or even their grandparents, have," Dr. Wood says. "They have a perception that they can feel their bodies and that they don't need medication. It's an educational gap."

That gap can have severe consequences. Uncontrolled blood pressure takes an immediate toll on blood vessels that lead to eyes, the kidneys, the brain and other organs. The JNC7 guidelines caution that in people 40 70 years of age, each increase of 20/10 mm of mercury (Hg) from blood pressure of 115/75 doubles the risk of cardiovascular disease, including heart attack, stroke or kidney disease.

"We need to start early with patients, before they get to an advanced stage of disease utilizing medications that slow progression and perhaps, to some degree, reverse some of the cardiovascular remodeling that goes on in people who have chronic elevations of blood pressure," Dr. Giles, the ASH President, says. "Once patients realize there's a return on investment this great benefit in (reducing) morbidity and mortality they'll start cooperating with physicians to control blood pressure."

Still, adhering to treatment can be as big a challenge as starting in the first place, and a significant proportion of hypertensive patients abandon therapy after roughly six months. A recent study tracking more than 14 000 patients treated for high blood pressure in Ravenna, Italy, found that only 31% were still taking the same medicine a year after their initial prescription, while 60% of patients had discontinued therapy.

The *Take Action for Healthy BP* program provides tools to improve patient compliance. Market research conducted by Novartis showed that specific treatment goals were seldom set at the outset of treatment, and physicians normally settled for incremental improvements in blood pressure to avoid potential confrontations resulting from pushing patients too hard. The program encourages open discussions between physicians and patients, and use of specific goals to ensure that treatment attains the JNC7 target for normal blood pressure less than 120/80 mm Hg for most adults.

Dr. Wood, who has enrolled dozens of his patients in *Take Action for Healthy BP*, is convinced that self-monitoring of blood pressure by patients at home can strengthen motivation and reinforce compliance. "We don't send a patient with diabetes home without a glucometer," he says. "I think blood pressure has got to be the same way."

By offering patients a blood pressure cuff at preferential price, he adds, the program empowers patients to see the actual outcome of treatment. "It's a way to make patients aware of their blood pressure so it's no longer an unknown quantity."

Motivating Patients

Nurse practitioners play a critical role in supporting and motivating hypertensive patients. "A nurse is often the first health-care professional to realize that blood pressure is elevated, and to talk to a patient about the condition," says Barbara Blakeney, M.S., R.N., President of the ANA. Nurses also understand the importance of getting, and keeping, patients motivated about treatment, she adds.

"You're telling people that they have a chronic condition that they'll be taking medication and need to be careful for the rest of their life," Ms. Blakeney says. "And because they aren't symptomatic, they find it hard to believe. It's not something they want to hear they get angry about it."

In today's health-care environment, the vast majority of people with hypertension can be successfully treated, Ms. Blakeney says. "The issue is helping patients understand the things they need to do how to fit treatment and new healthy habits into their lives."

That was the prime objective of Ms. Krupnick and fellow volunteers when the ANA *Take Action for Healthy BP* tour bus opened for business in early October in Copley Square, a fashionable district of Boston known for gourmet restaurants, art galleries and the Boston Public Library. More than 600 consumers ranging from business people and construction workers, to police, park rangers and even foreign tourists staying at nearby hotels lined up for free blood pressure screenings. Nurses fluent in Spanish, as well as sign language, handled the screening and counseling about the JNC7 guidelines.

A husband and wife from the UK, already under treatment for hypertension but far from attaining goal blood pressure, took home brochures about JNC7 to show their primary care physician. Ms. Krupnick estimates that about one-third of people screened in Boston had blood pressure that clearly indicated a need for treatment.

"People were looking for prevention and information," she adds. "And on the tour, all the right forces convened at the right time. It's something that nurses themselves could get behind in a big way because we see so much high blood pressure. And with these new treatment standards, there's an incredible opportunity to get hypertension back in the spotlight."

A New Advance for Paget's Disease

When Dom DiMaggio was diagnosed with Paget's disease in 1967, the famed American baseball star had never heard of the chronic bone disorder that can lead to serious complications such as deformities and fractures if not properly treated. Mr. DiMaggio later crossed the Atlantic for treatment and got his disease under control but even today, Paget's disease remains under-diagnosed and poorly treated.

A new medicine from Novartis called *Aclasta*[(1)] (zoledronic acid 5 mg) is shaping up as an important advance in the treatment of Paget's disease, and spearheads the company's pipeline of innovative new medicines against major bone disorders, including osteoporosis.

(1) Zoledronic acid (5 mg) is authorized to be marketed under the name *Aclasta* in Europe and is awaiting US approval of the name.

"We stumbled onto my condition during a routine examination and I remember that only a handful of doctors at the time really knew what Paget's disease was," Mr. DiMaggio recalls. In fact, Paget's disease is the second most common bone disorder after osteoporosis, afflicting one million individuals in the US and an estimated 4 million people worldwide.

Paget's disease progresses slowly, but by the late 1980s, Mr. DiMaggio was increasingly frustrated by the limited relief his therapy was able to provide. So when he heard about a promising new class of drugs, available in the Netherlands but not yet approved by the US Food and Drug Administration, he crossed the Atlantic for treatment. His disease went into remission and Mr. DiMaggio, who is 87 years of age today, hasn't required further treatment.

That medicine he received was part of the class of drugs called bisphosphonates, an important advance in treatment of Paget's disease. But patients still need to be as tenacious as Mr. DiMaggio to make sure they receive the best care available.

"Paget's disease is poorly understood and not often recognized so a lot of people are going to be missed," says Ethel Siris, M.D., the Madeline C. Stabile Professor of Clinical Medicine at Columbia University and one of America's leading authorities on bone disorders. "Even if a case is bad enough to be picked up if a patient has a deformed tibia or breaks a bone then the diagnosis will get made, but it still might not occur to anybody to treat it medically," Dr. Siris adds.

That could change, however, now that Novartis is poised to introduce the next important advance in treatment of Paget's disease. Regulatory applications for *Aclasta* are under review in Europe, the US and globally. In November, the US Food and Drug Administration designated *Aclasta* for priority review, a status granted to products considered to be a potential therapeutic advance over existing therapies, and one that usually leads to action by the FDA within six months.

"The launch of *Aclasta* will put Paget's disease on the radar for a lot of general practitioners, with a level of outreach and education that's never happened before," says Charlene Waldman, Executive Director of the Paget Foundation, a New York-based voluntary health agency. "A whole new era in the disease is coming."

Normalizing Bone Turnover

Regulatory applications for *Aclasta* are based on head-to-head clinical trials against risedronate, a current gold standard of treatment. In the studies, roughly 95% of patients who received *Aclasta* showed a significant therapeutic response, compared to 75% for risedronate.

With *Aclasta,* levels of serum alkaline phosphatase (SAP), a key biochemical marker for Paget's disease, returned to the normal range in about 90% of patients treated in the studies; the comparable figure for risedronate was about 60%.

"So we see the vast majority of patients treated with *Aclasta* normalizing their bone turnover, which predictably should lead to a lower incidence of long-term complications," says John Orloff, M.D., Vice President for Clinical Development and Medical Affairs at the Novartis business franchise for Arthritis, Bone and Women's Health.

Full details of the studies will be published in a leading medical journal later this year, Dr. Orloff adds.

Paget's disease is expected to be the first approved indication for Aclasta but the medicine is also in development for use in other bone disorders, including osteoporosis.

A Phase II study in osteoporosis, published in the *New England Journal of Medicine* in 2002, showed that once-yearly treatment with zoledronic acid, the active ingredient in Aclasta, significantly increased bone density in women with postmenopausal osteoporosis. Despite intervals of up to one year between doses, zoledronic acid produced an increase in bone mineral density in the spine and hip as great as that seen with oral daily or weekly dosing of other bisphosphonates.

Ongoing Phase III trials of *Aclasta* in the treatment of osteoporosis should be completed by 2006 and submission of regulatory applications in major markets is expected during the following year. Stringent regulatory requirements make osteoporosis studies long and demanding. Phase III trials of *Aclasta* now in progress involve nearly 10 000 patients who receive extensive x-ray examinations and bone scans as part of a follow-up period of up to three years.

Long-term Commitment

That significant investment of time and money underscores a longstanding commitment to bone disorders at Novartis. The company was a pioneer in development of bisphosphonates as well as *Miacalcic,* a synthetic salmon calcitonin that is approved for treatment of both Paget's disease and osteoporosis.

Complementing *Aclasta,* Novartis also has one of the pharmaceutical industry's strongest pipelines of innovative new treatments for bone disorders an area of rapidly expanding medical need.

According to the US Surgeon General's first-ever report on bone health and osteoporosis, published last year, an estimated 10 million Americans over age 50 have osteoporosis while another 34 million are at risk. Each year an estimated 1.5 million people in the US suffer an osteoporotic fracture, which often leads to a downward spiral in physical and mental health. About 20% of senior citizens who suffer a hip fracture die within one year.

The annual economic burden of osteoporotic fractures in the US is at least USD 18 billion, greater than either asthma or breast cancer. And the Surgeon General warns that the number of hip fractures in the US could double, or even triple, by the year 2020.

Both Paget's disease and osteoporosis are disorders stemming from the constant preventive maintenance performed on the human skeleton by specialized bone cells. Osteoclasts are the cells that periodically remove old, worn bone. Osteoblasts, another class of cells, rebuild healthy new bone to fill holes dug by the osteoclasts.

An entire adult skeleton is replaced every 7 10 years, but the pace of this dynamic process varies with age. During childhood and adolescence, new bone is added faster than old bone is removed but after maximum bone density is reached around age 30, bone removal begins to outpace bone formation.

Bone loss in women is most rapid in the first few years after menopause but persists into the postmenopausal years. Bone loss is primarily age-related in men, who account for about 20% of osteoporosis cases, and 30% of all hip fractures worldwide.

In Paget's disease, for reasons that still aren't well understood, bone removal accelerates dramatically at affected sites in the skeleton usually the skull, the spine, the pelvic area or a leg. Genetic predisposition is believed to play a role in the disease and some studies suggest that Paget's disease may result from a "slow virus" infection.

Once Paget's disease is active, the sites of involvement become overwhelmed by swarms of aggressive osteoclasts. In a desperate attempt to keep pace with this destruction, the osteoblasts, or bone-forming cells, lay down more new bone than normal but it is of increasingly poor quality and prone to fractures, leading to painful skeletal deformities and other complications.

Regular SAP Tests

The Surgeon General's report underscores the significant progress in bone health achieved in recent decades. According to the report, "Thirty years ago, both osteoporosis and the fractures that go along with it were thought of as an inevitable part of old age. But today advances in scientific knowledge have ushered in a new era in bone health."

At the same time, the Surgeon General cautions that much of what could be done to reduce the burden of bone disease still isn't happening. "Many in the medical community still aren't aware of the need to take action to prevent, assess and treat bone disease throughout life," the Surgeon General says.

Paget's disease is a case in point. Pagetic bone lesions are asymptomatic and consequently undetected by healthcare professionals, the Surgeon General's report notes. SAP blood tests are a key diagnostic tool in Paget's disease and, underscoring the importance of early treatment, the US National Institutes of Health recommend that siblings and children of someone with Paget's disease may wish to have an SAP test every two to three years after age 40. If the SAP level is above normal, other tests including a bone scan or x-ray can be performed, the NIH advise.

Yet SAP tests, which used to be a standard part of patient examinations, are used far less frequently today, to save money. To remedy that deficiency, the Paget Foundation and opinion leaders like Dr. Siris are pushing for better diagnosis. They are also calling for more aggressive treatment of patients who haven't yet developed symptoms, but have elevated SAP levels, and Paget's disease in parts of the body that eventually could lead to serious complications.

"If it's in the skull, you worry about hearing loss," Dr. Siris says. "In the pelvis area near the hip, you worry about deformity of the hip joint and a possible hip replacement late in life. In the tibia or the femur, there is potential for a bowing deformity that causes pain, makes you limp and may make you more susceptible to fracture."

Kenneth Halstead, a resident of Raleigh, North Carolina, was diagnosed with Paget's disease in 1960, at the age of 36. For more than 30 years, he's tried virtually every new drug that's become available, hoping to find at least one or two that he could use. In all that time, however, he's never managed to bring his SAP count within the normal range.

"Physicians have an inkling now but they still don't know the damage it can cause," says Mr. Halstead, who has Paget's in his skull, spine, both hips and both legs and regularly speaks at universities near his home to improve awareness of the disorder. He says he's eager to try *Aclasta* as soon as the new medicine is available in the US.

Affinity for Bone

Aclasta and other bisphosphonates have a very high affinity for bone, and once in the body, they home in on sites of osteoclast activity. The mechanism of action takes advantage of osteoclasts' voracious appetite: as osteoclasts dig pits in bone, they bind to bisphosphonate-coated crystals on the bone surface. Ingesting enough of those crystals incapacitates the osteoclast, and prevents further deterioration of the bone.

Aclasta is the first of a new generation of bisphosphonates so effective that one or two treatments have the potential to arrest progression of Paget's disease. Moreover, a single yearly dose for patients with osteoporosis can boost bone density and may reduce the risk of fractures.

The pivotal Phase III fracture trial of *Aclasta* currently underway is testing the drug's ability to reduce the frequency of vertebral and hip fractures. If successful, the once-yearly injection of *Aclasta* would offer patients unsurpassed convenience.

Patient compliance is another potential benefit of treatment with *Aclasta*. Data from health-care providers in the US indicate that half of patients prescribed oral bisphosphonates only adhere to treatment for seven months, too short a duration to derive the full benefits of the medication.

Another Phase III study is evaluating *Aclasta* in the prevention of clinical fractures in both women and men who suffered a recent hip fracture and have undergone surgery. "We know that these patients are at higher risk for developing other fractures, either of the hip or other sites. This study is designed to demonstrate the potential of *Aclasta* to prevent recurrent fracture in such patients," Dr. Orloff says.

Bone Quality

While the beneficial effect of bisphosphonates on bone density is mainly the result of reduced osteoclast activity, bisphosphonates also dampen activity of bone-formation cells. Some researchers believe even more effective therapy will be possible in the future by developing new medicines with more potent, but selective, effects on bone formation and bone removal. More selective agents could also be used as fixed-dose combinations, researchers predict.

One example of this new approach is AAE581, a Novartis compound in Phase II development. AAE581 works by inhibiting cathepsin K, an enzyme secreted by osteoclasts to dissolve the collagen, or organic matrix inside bone.

By preventing removal of bone without actually killing osteoclasts, the drug could trigger net formation of new bone and at the same time offer physicians greater flexibility as a complement to bisphosphonates. Because of the long registration trials required in osteoporosis, however, AAE581 isn't likely to reach the market before the end of this decade.

Another major trend in osteoporosis research emphasizes the importance of bone quality, or microarchitecture, as a complement to increasing bone quantity. This qualitative focus reflects the fact that some existing treatments, including *Miacalcic,* significantly decrease the risk of osteoporotic fractures without increasing bone mineral density as effectively as bisphosphonates.

It isn't clear exactly how *Miacalcic* reduces fractures. Some researchers believe the drug somehow prevents perforations in the spongy bone found in the hip or spine, areas where osteoporotic fractures are common.

In an attempt to unravel the underlying mechanisms of bone loss, Novartis has launched some visionary scientific collaborations. One is a partnership with the biomedical research arm of NASA, America's space agency. Loss of bone density accelerates dramatically under the weightless conditions of space travel. American astronauts and Russian cosmonauts have lost up to 2% of their bone mass per month. Six months in space can wipe out as much bone mass as a postmenopausal woman loses in a decade.

Clearly, some form of treatment will be necessary to guarantee the health of crews traveling to distant planets over long periods of time. One potential result of the Novartis-NASA collaboration could be the use of *Aclasta* by crews on future flights of the Space Shuttle.

Consumer Health

Key figures

	2004	2003
	(in USD millions unless indicated otherwise)	
Net sales	**9 750**	8 844
Operating income	**1 181**	1 320
Research and development	**566**	529
Research and development as % of net sales	**5.8**	6.0
Free cash flow	**1 128**	1 034
Net operating assets	**8 335**	6 727
Investments in property, plant & equipment	**522**	530
Number of employees	**32 548**	32 464

Sandoz

Facing a competitive industry environment pricing pressure in the US and Germany and a challenging year-on-year comparison with a strong 2003 performance, Sandoz achieves a 5% increase in net sales (1% in local currencies).

Over the Counter (OTC)

Net sales advance 11% (+5% in local currencies) due to focus on six strategic brands and introduction of innovative products such as *Theraflu/Triaminic Thin Strips* in the US.

Animal Health

Companion animal health products drive net sales growth of 11% (+5% in local currencies) amid ongoing success of recent product launches, particularly *Deramaxx*, *Milbemax* and *Atopica*.

Medical Nutrition

Net sales growth of 38% (+31% in local currencies) is supported by continued focus on disease-specific platforms, such as oncology and diabetes, and successful integration of Mead Johnson adult nutrition business.

Infant & Baby

High brand recognition of Gerber baby foods, as well as penetration of new market segments with toddler products and convenience of new plastic packaging, leads to net sales growth of 6% (+6% in local currencies).

CIBA Vision

Net sales rise 8% (+2% in local currencies) on the solid performance of *DAILIES* and *NIGHT & DAY* contact lenses, while specialty and frequent-replacement lenses decline. The O_2*Optix* brand is successfully launched.

The Customer is King

The biggest and most successful retailers offer exceptional growth prospects for Novartis. To capitalize on that opportunity, Novartis Consumer Health is redesigning its sales force and creating customer teams dedicated to key accounts starting with Wal-Mart Stores, Inc., the world's biggest retailer.

Wal-Mart and its retailing peers are more sophisticated, and more demanding of their suppliers. Novartis customer teams meet that challenge by providing nimble, high-caliber service. By pooling efforts of business units and drawing on cross-functional capabilities, the Wal-Mart Customer Team is generating synergies, and additional sales.

Building business across a broader front is expected to add more than USD 100 million in new revenue for 2005 pushing annual Novartis sales to Wal-Mart over USD 1 billion for the first time.

In the brave new world of retailing, industry leaders like Wal-Mart are rewriting the rules of the game. A recent report on the global consumer business by consulting firm Deloitte cited Wal-Mart's pursuit of price leadership passed on to consumers in the form of rock-bottom prices as "the driving force in a value revolution in retailing."

Suppliers are keeping pace with change by scrapping their traditional sales organizations and dedicating large, cross-functional teams to key accounts. In May of last year, Novartis Consumer Health unveiled its first customer excellence team, to handle the business of Wal-Mart. The new team and Wal-Mart have developed a three-year strategic plan establishing ambitious growth targets.

Buoyed by success at Wal-Mart, Novartis Consumer Health is forming similar customer teams to serve additional key accounts: CVS Corp. and Walgreen Co., two of America's leading drugstore chains.

"The biggest, most successful companies are growing at a disproportionately rapid rate at the expense of the rest of the retailing community," says Jim Shad, Chief Customer Officer at Novartis Consumer Health. "You've got to fish where the fish are and win with the winners."

Big Customers Big Challenges

Every week, more than 110 million shoppers walk through the doors of Wal-Mart's 3 200 stores across the US. The biggest stores pile up annual sales of more than $150 million each more than the entire annual sales of many well-known retail companies not too many years ago.

A key factor in the success of Wal-Mart's price leadership strategy is its legendary supply-chain excellence. Wal-Mart pioneered innovations such as global sourcing, just-in-time delivery and "cross-docking," or delivery of finished goods to the customer directly from the factory, to trim handling and inventory expense.

With some trusted suppliers including the Infant & Baby business unit of Novartis Consumer Health Wal-Mart dispenses with the red tape of purchase orders and hands over full responsibility for supply-chain management, according to pre-set criteria.

Wal-Mart maintains high standards. But key suppliers are virtually guaranteed rapid growth and other indirect benefits. "Working with the best, most efficient customers drives the manufacturing community that serves them to become even more efficient," Mr. Shad says.

From a base in Wal-Mart's home town of Bentonville, Arkansas, the new Novartis customer team has uncovered business opportunities that individual Novartis business units hadn't previously been able to exploit. The team comprises members from the Pharmaceuticals Division as well as Sandoz and our other Consumer Health Business Units plus functions ranging from finance and supply chain to logistics, marketing and sales.

Providing a single Novartis face to key accounts "allows them to do business with us in a simpler way," Mr. Shad says. "The team speaks the language of the customer and synergies and scale generate opportunities for new revenue."

Shopper Insights

Key suppliers like Novartis share access to the mountain of sophisticated data Wal-Mart assembles from its daily operations. Traditional retailers built their businesses by establishing personal relationships and catering to preferences of shoppers. That's simply not feasible in the mega-volume world of modern retailing.

Wal-Mart stays in touch with its customers by collecting detailed data on products, inventory and shifts in shopping trends. In one example last year, the Novartis customer team mined Wal-Mart data to develop key insights about shopper preferences in digestive and nutritional health boosting sales of *Benefiber,* the all-natural, powdered-fiber supplement that is a key strategic brand for Novartis Consumer Health.

Wal-Mart shoppers tend to make a single, major monthly shopping trip, usually when the paycheck arrives. That's a distinctly different cycle than convenience purchases made on an as-needed basis so Wal-Mart encourages suppliers to design packaging in line with habits of its shoppers.

Yet the biggest canister of *Benefiber* available early last year held only a 22-day supply, while competitors offered jumbo packages that lasted up to 90 days. Wal-Mart suggested launching a jumbo *Benefiber* pack and the Novartis team followed that advice, introducing a new 30-day supply that has become the top-selling *Benefiber* product at Wal-Mart.

Along with data from inside its stores, Wal-Mart assembles detailed knowledge of local shopper demographics in surrounding neighborhoods. Analysis of that data showed that a large number of Wal-Mart's top-selling *Benefiber* stores are clustered in Florida and have a high proportion of elderly shoppers. So Novartis began to focus sampling of *Benefiber* line extensions in those top stores, before rolling out the new products nationally.

Sales of *Benefiber* also benefited from Wal-Mart's penchant for in-store sampling. Doling out samples of *Benefiber,* mixed with apple juice or water, to shoppers on Saturdays and Sundays was a new twist for Novartis but it worked. Delving deep into Wal-Mart data, the Novartis customer team analyzed *Benefiber* sales which Wal-Mart tracks hour-by-hour during the shopping day. Sampling was fine-tuned to match peak flows of *Benefiber* buyers, increasing the rate of return on in-store activities.

"It shows how Wal-Mart has a propensity to expand categories, if you use their tools," says Matt Lucas, leader of the Wal-Mart Customer Excellence Team.

Wal-Mart's detailed knowledge of shopper demographics aided another promising initiative from the Novartis customer team this time targeting Latino shoppers. Latinos are America's biggest ethnic segment today. And, because of growing disposable income as well as loyalty to established brands from their home countries, they are an attractive group for retailers.

Marketing representatives on the Wal-Mart customer team identified the cross-border potential of several Novartis products beginning with *TesaCof,* the leading cough and cold franchise in Mexico. Working with Wal-Mart data, the Novartis team selected 400 stores with a high proportion of Latino shoppers as the platform for a US launch of *TesaCof.* Other international brands from Novartis may also find their way to Wal-Mart shelves.

"Attractive Novartis brands from other geographies can speak uniquely to customer groups and allow Wal-Mart to better serve its shoppers," Mr. Lucas says.

Healthy Heart

Wal-Mart has grown steadily through its focus on price leadership but the company also continuously responds to the needs of customers in new regions, and in retailing categories not yet fully exploited. Novartis has emerged as a crucial partner in one such category: carrying a more direct health-care message to Wal-Mart customers.

Over the past 18 months, more than 450 000 Wal-Mart shoppers have received free blood-pressure screenings through nationwide "Healthy Heart" events co-sponsored by Novartis and Wal-Mart. Disease information about hypertension available at the "Healthy Heart" events raised awareness about the "silent killer" that affects an estimated 60 million Americans.

When shoppers discover that their blood pressure is above the norm, and that they need to see a doctor and get it checked, they are likely to remember Wal-Mart as a catalyst of treatment. They would also be more likely to fill an eventual prescription at a Wal-Mart pharmacy.

In the OTC, or self-medication category, Wal-Mart claims a market segment share exceeding 25%. Its pharmacy business, however, is still much weaker than major rivals.

Strengthening the pharmacy business would add revenue, of course. Equally important, it's an opportunity for Wal-Mart to improve access to health care for many of its shoppers buttressing their loyalty, as well as bonds with local communities where Wal-Mart operates.

"Our strategies blended perfectly in the screening program to raise awareness of hypertension, which is poorly controlled in the US," Mr. Shad says.

In-store screenings by Novartis have rapidly expanded beyond "Healthy Heart" events. More than 200 000 Wal-Mart shoppers had their cholesterol tested last year. Novartis also joined nearly two dozen other Wal-Mart suppliers in a nationwide Diabetes Awareness Day in September.

Along with sponsoring free blood-glucose and blood-pressure screening for shoppers, Novartis featured recommendations from the *Start Healthy* campaign on childhood nutrition, developed by the Gerber Products unit. In-store sampling showed shoppers how better nutrition can help reduce risks of diabetes for adults, as well as children.

Another co-promotion linked *Benefiber* and *Zelnorm,* a prescription-only medication available in the US for the treatment of irritable bowel syndrome with constipation, a disorder that afflicts millions of American women.

Sandoz, the Novartis generics business, has worked with Wal-Mart on a program explaining the use of cost-effective generics medicines. When used appropriately, generics should offer attractive savings to Wal-Mart shoppers, who tend to have lower family incomes and less access to health care.

"We're still just scratching the surface," Mr. Shad says. "Wal-Mart and other major customers have a profound impact on the way our brands go to market. They influence what customers buy through recommendations to purchase, pricing, merchandising and shelving. Novartis, in turn, brings innovation to the party and can help make them a better retailer. We're beginning to show we can share in each other's success."

March to Global Leadership

The Sandoz brand stands for high quality, global presence and innovation including worldwide development and production platforms.

By combining strong organic growth and strategic acquisitions, Sandoz has reached a No. 2 global ranking and is closing in on its goal of generic-industry leadership. Proven prowess in digesting acquisitions leaves Sandoz in a position of strength as competitive pressures intensify, and the industry is expected to consolidate to a handful of global giants.

At Novartis, generic products complement the branded, patent-protected medicines that are discovered, developed and marketed by our flagship Pharmaceuticals Division. Low-cost, high-quality generics save money, which health-care systems can redeploy to increase purchases of the newer, innovative drugs that many patients require.

Our strategy has been reinforced by the reorganization of Sandoz. Sandoz will report as a separate division from January 1, 2005. The reorganization allows an even sharper focus on generics under the Novartis umbrella, enabling Sandoz to meet intense competition by improving overall cost-competitiveness and accelerating growth.

Sandoz will continue to expand through acquisitions as well as organic growth as it showed last year with the USD 565 million purchase of Canada's Sabex Holding. Sabex had twin attractions: along with added clout in Canada, a well established generic market, the acquisition gave Sandoz a stronger foothold in sterile injectables.

Sandoz has pushed aggressively into injectables, particularly injectable antibiotics, where stringent production standards required by regulators diminish the number of potential competitors, compared to many mainstream product areas in generics. Sandoz had strengthened the foundations of its bulk antibiotics business in 2003 with the acquisition of Amifarma, a Spanish generic company that also specialized in antibiotics.

Focused expansion has allowed Sandoz to absorb more than a dozen rivals over the past five years. Some of those purchases brought access to key technologies, while others provided additional production capacity or popular products to open new markets targeted for expansion.

"We have implemented global processes something that's easier said than done," says Dr. Arnim Jost, head of Global Marketing and Sales Services at Sandoz. "We have a global development and registration network and a global production system that enables us to benefit from low-cost production sites in India and other countries around the world."

Sandoz is present in more than 100 countries more than any generic competitor. And a broad product range, including more than 400 compounds in more than 5 000 preparations, enables Sandoz to spread the risks of setbacks for individual products or markets. "Key accounts can rely on us to be nimble, among the first companies to launch a new product but also remaining in the market after others fail to cope with the fierce competition, and bail out," Dr. Jost says.

A second strategic pillar production of active ingredients adds flexibility in negotiations with wholesalers and large pharmacy chains that often are interested in Sandoz as a potential supplier for private brands, in addition to generic, and over-the-counter products, carrying the Sandoz brand.

Then too, critical mass allows Sandoz to invest more than rivals in promising areas of future growth. One research focus is follow-on biologics, second and subsequent versions of recombinant DNA-derived protein products that depend on the same mechanism of action, and are used in the same indications, as the originator product.

Rapid Growth

Industry analysts expect growth rates of about 10% per annum for generics over the next five years, outpacing projected growth of branded, patent-protected medicines during the same period. A key growth driver will be the steady stream of blockbuster drugs expected to lose patent protection; branded medicines with aggregate sales of more than $20 billion face patent expiry between 2004 and 2006.

At the same time, cash-strapped governments and other health-care payors are encouraging greater use of generics as a way to contain costs. In mature markets such as the US, the UK, Germany and Canada, generics already represent more than 30% of total prescription volume, according to industry consultant IMS Health. Traditionally, European countries such as France and Spain shunned generics but that's changing fast.

A cost-containment commitment by general practitioners in France to write 10% of their prescriptions generically has increased penetration and the French government has targeted a 25% market share, by volume, for generics in 2007. Meanwhile, the Spanish government wants generics to reach a 15% market share.

While chemically identical versions of medicines that have lost patent protection are still the mainstay of the generic industry, fierce competition is clouding the future of small and mid-size generic firms. In the first year after patent expiry, it's not unusual for up to 15 different products from generic manufacturers to enter the market virtually simultaneously. Many subsequently drop out in the face of cutthroat pricing, however, and ultimately the market may stabilize with a half dozen rival products and somewhat firmer prices. Bigger companies increasingly are eyeing niches like novel drug delivery forms that reward specialist know-how with better margins.

Meanwhile, generic manufacturers from low-cost countries such as India are expanding into the US and Europe. Sandoz has responded by establishing its own production base in low-cost countries. The 2002 takeover of Lek, Slovenia's biggest pharmaceuticals company, gave Sandoz a manufacturing platform in eastern Europe, which was further expanded last year with the opening of new plants in Strykow, Poland, and Targu Mures, Romania.

Sandoz also opened a new factory in Mumbai, India, which is expected to be approved by both the US Food and Drug Administration and European Union regulators this year. As well as gaining access to the same low labor and production costs as local rivals, Sandoz won time by locating the new plant in India. Starting from scratch, the plant was completed in just 16 months, much faster than would have been possible in most other countries.

Umbrella Brand

Usage of generics may be climbing throughout Europe, but the pace of development and local regulations vary from country to country and markets remain highly fragmented. Substitution the right of pharmacists to dispense cost-effective generics even when physicians prescribe more costly, brand-name medicines is well established in the UK, the Netherlands and Germany and is expanding rapidly in France, Spain and Italy.

That uneven pace of evolution exerts a major impact on marketing strategy at Sandoz. "The more you go toward substitution and prescribing of generics, the more important a corporate brand becomes as a powerful way to differentiate your products and services," says Andreas Rummelt, Chief Executive Officer of Sandoz. In 2003, Sandoz moved to consolidate more than a dozen local or regional brands under an umbrella corporate brand and by the end of last year more than 80% of all legal entities had been rebranded under the Sandoz flag.

Legal Challenges

Another distinctive trend among generic companies in recent years has been aggressive legal challenges to patents on established drugs. Legislation in the US encourages such challenges by offering six-month periods of market exclusivity to generic companies that dislodge patents in the courts. Successful challenges against blockbusters such as the antidepressant Prozac® have produced giant financial windfalls for generic manufacturers.

Sandoz strives to remain competitive in markets where it is active while at the same time respecting the legitimate intellectual property rights of innovator companies. It is difficult to predict the outcome or timing of legal battles, which can cause volatility in generic companies' financial results.

In 2003, Sandoz sales were fueled by buoyant demand for *AmoxC,* a generic version of the antibiotic Augmentin®. The sales windfall followed a US court ruling that invalidated certain Augmentin® patents challenged by Sandoz. Last year, with no corresponding legal victory, sales growth slowed because of the demanding year-on-year comparison. "To assess this performance appropriately, you have to understand the volatility of the generics business," Dr. Jost says.

Follow-on Biologics

In September, Australia became the first country to approve *Omnitrope,* a human growth hormone developed by Sandoz and produced by recombinant DNA technology.

Aging populations in Europe and the US are fueling increased demand for health-care services and drug therapy creating an imperative to curb costs, while preserving ample resources for innovative, patent-protected medicines. Sandoz is pioneering regulatory policy for the emerging field of biopharmaceuticals. It remains determined to contribute to the availability of safe and effective "follow-on biologics" and will work closely with regulatory authorities to identify the most effective approval route that provides adherence to impeccable standards.

In the US, approval of most follow-on biologics will require new legislation to insure that the FDA is able to fulfill its mission to assure safety and efficacy for patients. In September, the FDA said it was "unable to reach a decision" on whether to approve an application submitted by Novartis for *Omnitrope,* "due to uncertainty regarding scientific and legal issues."

Meanwhile the Committee for Medicinal Products for Human Use (CHMP), the key scientific advisory panel to the European Commission, issued a positive opinion on *Omnitrope* in 2003. The decision appeared to be a major step toward approval.

However, the European Commission later announced it did not intend to continue the approval process under the chosen regulatory pathway. Sandoz challenged that decision, and discussions with the European Commission are currently underway to make *Omnitrope* available to patients in Europe.

Corporate Citizenship

Corporate Citizenship at Novartis means sustainable commitments to:

PATIENTS
OUR PEOPLE
HEALTH, SAFETY AND ENVIRONMENT
BUSINESS CONDUCT
CORPORATE GOVERNANCE

"Corporate Citizenship implies many things, but in a way describes a responsible behavior of a company within society. In the end, doing the right thing also makes business sense." Daniel Vasella, M.D.

Innovation is the driving force of our company. The creativity and motivation of our people respond to the call of making a difference for patients, by addressing disease and unmet medical need.

Novartis aspires to responsible global citizenship based on our people and our corporate values, the foundations of commercial success and our high standards of business conduct. We operate within both the spirit and the letter of the law and we refuse to tolerate illegal or unethical dealings in our daily activities anywhere in the world.

We foster teamwork and trust, promoting interaction across functions and regions. We establish ambitious targets and recognize and reward high performance.

Thanks to our good results, our Corporate Citizenship program reaches millions of patients worldwide. We bring the revolution in biomedical research to bear on diseases of the developing world, and provide medicines at cost or sometimes free to patients who otherwise would not have had access to treatment.

Shared values and a common mission and strategy unite our 81 400 associates, and our 200 operational companies and business operations in more than 140 countries. Our progress last year as well as our aspirations and targets for 2005 is reported in the following section.

Commitment to Patients

Novartis endorses the right to health. We believe that each sphere of society from government and charitable organizations, to medical professionals and business has a role to play in support of the right to health.

Our primary and most important contribution to society is to discover, develop, produce and distribute high quality health-care products, addressing unmet medical need.

Our commitment to patients leads us to maintain one of the highest levels of research and development investment in the pharmaceutical industry, measured as a percentage of sales. Our drug development has been among the most productive of any top-tier pharmaceutical company in recent years, with 13 new medicines approved by the US Food and Drug Administration since 2000. Our development pipeline is widely considered one of the industry's strongest, and key development projects are on track to meet milestones in 2005.

At the same time, Novartis offers one of the broadest ranges of drug treatment options from patent-protected, life-saving prescription medicines, to cost-effective generic products of growing importance to health-care systems, and leading self-medication brands to enhance overall health and well-being.

Medicines from Novartis help patients avoid costly hospitalization, and ease their return to normal, productive work. We enable children afflicted by disease to play with their friends again and grandparents to hold grandchildren they might never have met without effective medical treatments.

An increasing focus on the cost of health care tends to overshadow recognition of the huge value that individuals, and society, realize from modern medicine through longer life expectancy, lower rates of infant mortality and reduced illness and disability. Novartis has embarked on a program of rigorous economic analysis to document the value of our medicines and the scope and significance of the benefits they provide for patients and society.

As we strive to be a leading company in health care, we recognize that all our commercial activities must be pursued in a responsible way. Success in business depends on maintaining the trust of commercial partners, government authorities, patients, health-care professionals and other essential stakeholders. Our Code of Conduct is fundamental to the task of creating and maintaining such trust.

Patients in Need

Thanks to our good results, we also try to help where there is immediate need with products, funds and other supportive measures, on a case-by-case basis. Our Corporate Citizenship program reaches millions of patients worldwide each year.

The Novartis Institute for Tropical Diseases based in Singapore is bringing the ongoing revolution in biomedical science and technology to bear on diseases of the developing world, initially tuberculosis and dengue fever (see page 48).

We provide medicines at cost or sometimes free to patients in the developing world afflicted by diseases such as leprosy, malaria and tuberculosis. We also offer discounts and support programs to patients without medical insurance or other financial resources in industrialized countries (see table on page 47).

Our public-private partnership with the World Health Organization (WHO) provides *Coartem*, our medicine against malaria, to millions of Africans at a time when the emergence of resistant strains of parasites has rendered existing medicines ineffective (see page 51).

For 25 years, the Novartis Foundation for Sustainable Development has made significant contributions to the health of needy people in the developing world (see "Tuberculosis" on pages 45-46).

Novartis welcomes dialogue, and cooperation, with relevant stakeholders in conjunction with activities relating to the right to health.

In recognition of our commitment to patients, Daniel Vasella, M.D., Chairman and Chief Executive Officer of Novartis, received the FIRST Award for Responsible Capitalism in 2003. The FIRST Award honors business leaders who have excelled in both commercial success and social responsibility.

In his acceptance speech Dr. Vasella acknowledged that at Novartis, "We have debated the company's role and sometimes disagreed on the limit of our responsibility." Novartis believes the State bears the primary responsibility to address the main causes of premature mortality and preventable morbidity among its citizens. "But a company can't remain passive it is imperative that we give support," Dr. Vasella added.

"The fact is that no single player can resolve the complex problems of poor countries. Far-reaching success can only be achieved through the constructive collaboration of many well-intentioned parties."

Gleevec/Glivec

Often, reaching patients in distant corners of the globe requires the same creativity and tenacity that drives scientists in our research labs. For the breakthrough cancer therapy *Gleevec/Glivec*, Novartis cooperated with the Max Foundation to develop one of the most generous and far-reaching patient assistance programs yet implemented on a global scale. These patient assistance initiatives in more than 70 countries have provided *Gleevec/Glivec* free of charge to more than 10 000 people who otherwise would not have had access to the drug to treat their life-threatening disease.

The *Gleevec/Glivec* International Patient Assistance Program (*GIPAP*), established for patients outside North America, is based on a "patient-direct" approach ensuring deliveries to patients through a network of more than 500 registered physicians and more than 130 qualified treatment centers worldwide. The Max Foundation serves as administrator for *GIPAP*.

In India, *GIPAP* had to navigate financial, regulatory, legal and importation barriers to reach the eligible patient population. More than 3 000 people an estimated 98% of patients who receive *Gleevec/Glivec* in India have obtained the drug at no cost through the *GIPAP* program.

By contrast, Argentina's national health-care reimbursement scheme ensures full coverage for oncology treatment. However, patients still face life-threatening delays during the months needed to approve insurance reimbursement applications. Novartis has partnered with physicians and Argentina's Ministry of Health to provide eligible patients with interim access to *Gleevec/Glivec* until reimbursement is processed and approved. About 20% of the country's CML and GIST patients[(1)] have been unable to obtain *Gleevec/Glivec* in a timely manner through their healthcare provider, and turned to *GIPAP* for support.

(1) Chronic myeloid leukemia (CML), gastrointestinal stromal tumor (GIST).

Leprosy

Since 2000, Novartis has provided free treatment for all leprosy patients in the world through a public-private partnership with the WHO. The face of leprosy in countries like India has changed thanks to educational programs to increase awareness of the disease, and comprehensive, effective treatment with multi-drug therapy (MDT) that has cured more than 3 million patients.

A group of WHO physicians got firsthand evidence of the transformation last year when they visited an outdoor market in Vondrozo, a town on the east coast of Madagascar. Janine, a young woman selling vegetables, proudly took out her MDT blister pack and told the physicians: "I have leprosy but I am on treatment and I know that I'll be cured." Another merchant, named Monique, showed the visitors a small insensitive area of skin on her back and confidently predicted that her disease would be cured.

Perhaps even more surprisingly, customers in the market were unconcerned about the presence of two women with leprosy in their midst. That's a dramatic shift from the intense fear and prejudice that once prevailed. In Madagascar, people with leprosy used to be denied a wake or burial in their ancestral tombs for fear that their bones might spread the disease. As communities witness the positive impact of diagnosis and effective MDT, old prejudices have faded.

In Sri Lanka, the Novartis Foundation for Sustainable Development supported a disease awareness program where the Ministry of Health urged people to check their skin for insensitive patches and seek treatment. Young people have been the most attentive audience.

Karima, a 22-year-old woman, accompanied her mother to a routine appointment at a local clinic and also took the opportunity to see a medical officer in "Room 21" about the insensitive patch of skin on her right shoulder. Karima had heard information about leprosy and Room 21 during radio broadcasts. The doctor confirmed Karima's suspicions and initiated a six-month course of MDT to cure the ailment.

Tragically, delay in diagnosis and commencement of treatment still leads to the severe disabilities traditionally associated with leprosy.
Mrs. Kalpana, a 56-year-old Indian woman, developed leprosy in the mid-1980s. Despite being cured through MDT, she was still left with an intractable foot ulcer.

"I went everywhere to find a cure for my ulcer including well-known physicians in our country but nothing helped," Mrs. Kalpana says. "I got depressed; the ulcer became worse and began to smell; and I was so ashamed that I stopped attending family events."

Ultimately, Mrs. Kalpana contacted a Comprehensive Leprosy Care Project (CLCP), operated by the Novartis Foundation in Mumbai to help patients care for leprosy-related disabilities. A self-care kit from the CLCP enabled Mrs. Kalpana and her husband to clean and treat her foot ulcer effectively enough to make corrective surgery possible. Today, following a successful operation, she attends family functions again.

Tuberculosis

The initial deliveries from Novartis of a specially packaged, gold-standard treatment against tuberculosis (TB) reached Sri Lanka in November of last year.

Under a five-year agreement with the World Health Organization, Novartis is providing fixed-combination tablets to treat 500 000 tuberculosis patients in the world's poorest countries with Directly Observed Therapy Short-course, or DOTS.

The spread of drug-resistant TB is one of the world's most pressing public health challenges, and DOTS has emerged in recent years as the most effective response. The approach requires TB patients to swallow their medicines under the direct observation of a health worker or community volunteer.

Clinical studies have shown DOTS can produce cure rates as high as 95% but the roll-out of DOTS in developing countries has been sluggish. The WHO has turned to major pharmaceutical companies for assistance seeking donations to its Global Drug Facility, which has provided medicines and procurement support to more than 3 million TB patients in 65 countries.

The formulations from Novartis reduce the number of tablets patients need to take during the intensive phase of treatment to two to three per day, from more than a dozen tablets previously required. In addition, the duration of therapy is shortened to six months from eight months which promises to improve patient compliance and significantly reduce the risk of developing drug-resistant TB.

Novartis earmarks its DOTS donation to poor countries eligible for support from the Global Fund to Fight AIDS, TB and Malaria. To qualify for the donation, each country must submit its treatment program for review and approval by a technical advisory committee at the WHO. Fixed-dose combinations simplify logistics by lowering the risk of stockouts of any individual drug, and reducing prescription errors in poor countries.

Novartis is tackling other hurdles to effective treatment that are beyond patients' control in the developing world. It's difficult for the poorest patients particularly women and children to make long daily journeys to a health facility, as required under the DOTS regimen. The Novartis Foundation for Sustainable Development is working with Ministries of Health to allow patients greater choice in where they receive treatment including at home, with a personal observer in place of supervision at a health facility. Besides eliminating taxing journeys, use of an observer could provide additional support to patients that is crucial to compliance and successful treatment.

Novartis Access to Medicine Projects 2004

Project	Objective	Target region	Program value 2004 (USD millions)	Patients reached 2004
Malaria/WHO	Provide *Coartem* at cost for public-sector use	Africa, Asia, Latin America	14	3 300 000
Leprosy	Eliminate leprosy by providing free MDT treatment[4] to all patients worldwide through WHO	Global	6	500 000[6]
Tuberculosis	Donation of fixed-dose combinations (FDCs) for 500 000 patients over five years through WHO	Tanzania Sri Lanka	0	2 000[7]
Novartis Institute for Tropical Diseases (NITD), Singapore	Discover novel treatments, prevention methods for major tropical diseases; NITD discoveries to be available in poor endemic countries without profit[5]	Developing	10	
Novartis Foundation for Sustainable Development (NFSD)[1]	Work at policy and field level to improve access to health care for the world's poorest people	Developing countries	7	15 500
Patient Assistance Programs (PAP); excl. *Gleevec/Glivec*	Assistance to patients experiencing financial hardship, without third-party insurance coverage for their medicines	US	175	170 000
Gleevec US PAP[2]	Within capability of Novartis, continue to ensure access for patients who cannot afford the drug in the US	US	100	4 886
Glivec Global PAP[3]	Within capability of Novartis, continue to ensure access for patients outside the US who cannot afford the drug	Global	147	7 031
Together Rx/ Novartis Care Card	Prescription savings program for elderly, low-income Medicare recipients without other insurance	US	105	240 000
Emergency Relief	Support major humanitarian organizations (emergency medical needs, relief programs)	Global	6	11 000
Total		**Worldwide**	**570**	**4.25 million**

Note: Blank signifies not applicable.

(1) In addition, the NFSD reached an estimated 600 000 people during 2004 through health support and more than 10 000 AIDS orphans in Sub-Saharan and Southern Africa.

(2)

During 2004, 1 660 new patients were approved by the Gleevec US PAP.

(3)

Includes 70 patients from Canada's Glivec PAP which is administered independently. During 2004, 5 384 new patients were approved by the Glivec Global PAP.

(4)

Multi-drug therapy.

(5)

Many research projects currently planned at the NITD would not gain funding, by normal commercial standards.

(6)

Estimate.

(7)

Deliveries of tuberculosis treatments began in November 2004.

NITD: A Research Role Model for the Developing World

"It's not often that you get to build a research center that is the first of its kind," says Alex Matter, Director of the Novartis Institute for Tropical Diseases (NITD).

NITD is off to a flying start. Staff has grown rapidly at the Singapore-based research center that is focusing initially on the "neglected" diseases of tuberculosis (TB) and dengue fever.

Scientific collaborations have sprouted with key research institutions in Singapore and around the world. And with other Novartis research centers contributing technology and promising leads, NITD expects to have two compounds in clinical testing by 2008, and its first novel medicine available to patients by 2012.

NITD is a wholly owned Novartis affiliate, also supported by Singapore's Economic Development Board (EDB). The institute is a core element of the Novartis Corporate Citizenship program. Medicines discovered at NITD will be made available on a nonprofit basis to patients in those countries where the drugs are most needed.

"Many diseases of the developing world haven't profited from the revolution in biomedical science and technology we've seen in recent years," says Paul Herrling, Head of Corporate Research at Novartis. "Novartis would like to apply this leading-edge science and technology to address the medical needs of poor patients in the tropics," he adds.

"We want NITD to be a role model in all aspects of drug discovery including training of students from developing countries in the special skills needed to translate basic science into actual drugs," Dr. Herrling says. "Our task is to come up with new drugs, based on new targets, with new modes of action."

That's a critical mission, considering the relentless spread of both TB and dengue fever worldwide. An estimated 2 billion people, one-third of the world's population, are infected with TB; every year eight million of these people develop the disease, and two million die of TB.

Moreover, the number of drug-resistant strains of the TB bacillus has exploded in recent years, due to inappropriate treatment of the disease. The World Health Organization has declared drug-resistant TB an urgent health threat, but there has been little research into new treatments for decades.

Dengue fever, a viral disease spread by mosquitoes, usually triggers symptoms similar to a severe form of flu, but in a small percentage of patients, mainly children, it progresses to a life-threatening form called dengue hemorrhagic fever. The disease causes an estimated 50 million infections, 500 000 hospitalizations and more than 25 000 deaths every year.

While dengue fever used to be concentrated in a handful of countries, it now has spread throughout the entire tropical world, and epidemics have become more common. No specific treatment for dengue fever is available, and NITD will be the biggest drug discovery center in the world focusing on the disease.

Promising Projects

In July, NITD moved to permanent premises in the Biopolis science park in Singapore. The new home is within walking distance of neighbors such as the Singapore Institute for Molecular and Cell Biology, and similar institutes for genomics and bioinformatics. Five local neighbors have joined forces with NITD to form the Singapore Dengue Consortium. NITD is also coordinating expanded drug-discovery collaborations with the Global Alliance for TB Drug Development, a public-private partnership.

For Singapore, NITD is an important part of the campaign to foster development of a local biomedical industry and reduce dependence on electronics as the prime engine of economic growth. An island- state located at the tip of the Malay Peninsula with a population of 4.2 million, Singapore is a former British Crown Colony that became internally self-governing in 1959. With one of the world's highest levels of per-capita Gross National Product, Singapore is widely considered a success model for the region.

Solid intellectual property protection made Singapore an attractive site for NITD. The country also offers proximity to patients with TB and dengue fever, as well as experienced treating physicians. "TB and dengue fever aren't diseases that occur in environments where we normally operate. If you don't really understand what a disease is, it's very difficult to make an appropriate medicine," Dr. Herrling says.

Mountain of Pills

At the official opening ceremony for NITD's new home last summer, Daniel Vasella, MD, Chairman and Chief Executive Officer of Novartis, shared some deeply personal memories from his youth to explain the decision to create the new research center. At the age of eight, Dr. Vasella was infected with tuberculosis and his life was saved thanks to a quick diagnosis, and effective medication during an extended stay in a Swiss hospital.

He still has vivid memories of injections "and an amount of drugs to swallow that seemed unlimited. In life it's important to experience your own fragility so one can relate to the fragility of others," Dr. Vasella muses. "So empathy is the first, and an essential reason, for creating the NITD.

That mountain of pills and injections remains equally formidable for TB patients today, says Clifton Barry, M.D., a section chief for tuberculosis research at the US National Institutes of Health. "If anything, patients today have even worse prospects," Dr. Barry sighs. "Most children who face TB do so in an infrastructure where they have little access to appropriate diagnosis or the constant supervision it takes to complete the six to eight months of therapy required to cure them."

Dissecting Pathways

Along with cutting-edge tools and top scientific talent, NITD also has inherited the Novartis research philosophy that puts a premium on identifying and attacking the underlying causes of a disease, not just treating symptoms.

Advanced technologies have made it easier to dissect "pathways" networks of genes that function as a unit in biological systems. Better understanding of pathways allows NITD scientists to maximize the therapeutic effect of new medicines while minimizing side effects.

"Ten years ago, our approach to target finding centered around one single target at a time," says Dr. Matter, who headed Oncology research at Novartis before moving to NITD. "Today we can look at all the genes in a bacillus, a virus or a cell at the same time. It's huge progress."

In the case of TB, Dr. Matter and NITD scientists are attacking from two different directions. *Mycobacterium tuberculosis,* the bacterium that causes the original infection, has a phenomenal capacity to adopt a dormant state and hide in the body, impervious to drugs, for months, years or even decades. But if the host's immune system is weakened for example, as a result of HIV infection those latent bugs suddenly come out of hiding and reactivate TB.

NITD scientists are racing to unravel the genes responsible for latency, and to design drugs to flush *M. tuberculosis* out of hiding. Another key objective is to develop more effective new medicines that can shorten the current treatment regimen, which requires daily medication for up to nine months.

Dengue fever, in turn, is an infection triggered by a virus closely related to viruses responsible for diseases ranging from yellow fever and West Nile fever, to Japanese encephalitis and hepatitis C.

The primary goal of NITD's dengue research program is to prevent progression of the disease to the more serious, potentially deadly dengue hemorrhagic fever. It isn't known why dengue fever progresses in some patients but NITD scientists suspect misfiring of the body's immune defenses may be a key factor.

Along with compounds that target the immune system, NITD scientists are working on potential medicines that block action of an enzyme essential for replication by the dengue virus. "These are biological targets we know how to deal with," Dr. Matter says, citing as an example so-called protease inhibitors that have revolutionized treatment of AIDS

Yet even if NITD researchers decode the science, additional hurdles loom for new medicines destined for use in poor, tropical countries. Drugs used in the tropics must maintain stability under severe conditions of humidity and heat. They should be simple and inexpensive to manufacture.

They also must be very well tolerated. Physicians can't easily monitor use by patients who live far from clinics or hospitals. And many patients are being treated for several different disorders simultaneously, raising the potential risk of drug-drug interactions, Dr. Matter says.

Still, leads contributed by other Novartis research centers have given NITD a head start, one reason Dr. Matter predicts that two compounds will begin clinical testing by 2008, with the first novel medicine from NITD available to patients by 2012.

"NITD is a relatively small institution, and we wouldn't get very far working alone," he says with a smile. "Luckily we can leverage this institute within the world of pharmaceuticals, and access 2 700 research colleagues at Novartis."

Rolling Back Malaria: Zambia

At Chongwe District Health Center, a row of cramped, single-story buildings hugging a dusty highway about 50 kilometers outside Zambia's capital city Lusaka, a young mother named Mimi Matibenga holds her son Layton, and talks about malaria.

Malaria kills hundreds of thousands of infants and young children in Africa every year. Layton caught the disease when he was a year old a dangerously vulnerable age in malaria-endemic areas like Zambia. Infants are no longer protected by immunity from their mothers, but they haven't yet built their own immune defenses.

For several frightening weeks, Ms. Matibenga says, Layton failed to recover, despite treatment with chloroquine, the drug Africa has relied on for decades to treat malaria. The danger finally passed, she says, when Layton was given a new antimalarial medicine *Coartem*, from Novartis.

It's a familiar story in Zambia, which adopted *Coartem* as the country's new first-line therapy against malaria two years ago. The emergence of drug-resistant strains of malaria had rendered chloroquine increasingly ineffective; at the time of the policy change, less than half of patients treated with chloroquine were being cured. Both the number of malaria cases reported, and associated deaths, were rising rapidly.

Today, the tide is turning. Speaking late last year at a conference organized by Novartis, Zambia's Minister of Health, Dr. Brian Chituwo, said "Preliminary observational studies show positive strides in terms of increased community acceptance and reduced incidence of malaria morbidity and mortality."

Still, Dr. Chituwo didn't hide his frustration over the human cost of malaria or his determination to achieve even more rapid progress. In Zambia, he mused, malaria remains the leading cause of morbidity and mortality, even amid concurrent epidemics of HIV/AIDS and tuberculosis.

"Sadly, a large proportion of these malaria cases represents the fertile segment of our population: pregnant women and children under five," he added. "This is totally unacceptable, considering that malaria is completely preventable and curable."

That sense of urgency is widely shared by health officials throughout Africa. "This isn't only a challenge for the region that has got the endemic malaria. It's a challenge for the whole world," says Professor Ronald Green-Thompson, head of the Department of Health in South Africa's KwaZulu-Natal province.

KwaZulu-Natal and Zambia are pioneering radically new tactics against malaria. Their approach combines effective new medicines like *Coartem* with large-scale prevention programs, including insecticide spraying and use of insecticide-treated bed nets, to battle deadly, drug-resistant forms of the disease. Access to these new tools has been galvanized by public-private partnerships between companies like Novartis, international organizations such as the World Health Organization and financial donors such as the fledgling Global Fund to Fight AIDS, Tuberculosis and Malaria.

More than 20 African countries are in the process of adopting similar malaria-control models. This year tens of millions of patients could be treated with effective new drugs and tens of thousands of lives could be saved, thanks to the new treatment guidelines.

Clearly, additional resources are needed. But Nick White, Professor of Tropical Medicine at Oxford University and a world authority on malaria, insists that combating the disease actually represents a very good bargain. "We could have a dramatic effect on the number of people who die and suffer from malaria with a relatively small international investment," Dr. White says. "That would have a huge and beneficial impact on the health of the developing world and also have a remarkable economic benefit for those countries."

Surging Demand

Access to health care in the developing world is one of the most urgent challenges in public health today, and Novartis has created a portfolio of programs targeting "neglected" diseases.

We're already making a difference in the battle against malaria with *Coartem,* the prototype of a new generation of antimalarial treatments known as artemisinin-based combination therapies, or ACTs. *Coartem* is recommended by the WHO for use in endemic countries experiencing high levels of resistance to conventional medicines.

Under a public-private partnership with the WHO formed in 2001, Novartis provides *Coartem*, at no profit, for public-sector use in developing countries where malaria is endemic. Since 2002, more than six million treatments have been provided through the WHO under the pact.

According to Professor Richard Feachem, the Global Fund's Executive Director, the commitment by Novartis "to provide, at cost, an extremely effective new drug against a killer disease is translating into lives saved across the world." That wouldn't be possible, however, without the parallel efforts of both the WHO and the Global Fund.

The WHO provides technical advice to countries, based on surveillance of drug resistance, and guides countries on policy, including when to change to ACTs. WHO officials also help countries to make proper use of the new drugs when they arrive in the field.

The Global Fund has become the world's largest financier of malaria programs and is the main financial engine behind the rapid shift from existing antimalarial agents to *Coartem* and other ACTs. Commitments to date exceed USD 1 billion over five years to finance malaria-control activities in more than 70 countries. The Global Fund also is reprogramming grants to several countries from earlier funding rounds redirecting money to ACTs where appropriate, and meeting the need for additional funds to implement ACTs where required.

The ACT bandwagon is gaining momentum, creating a surge of new demand. The WHO estimates that demand for ACTs will rise exponentially in 2005, to at least 130 million treatments, from about 30 million treatments in 2004.

Not surprisingly, the rapid scale-up is creating challenges for manufacturers. Artemisinin, a key component of *Coartem* and other ACTs, is a plant-derived product. Crops of *Artemisia annua* must be planted one growing season ahead of harvesting and extraction for use in production, and the process chain for manufacturing ACTs is complex and time consuming. The recent surge in demand has created temporary bottlenecks in the availability of raw materials from Chinese suppliers, who currently dominate the world market.

Novartis has expanded production capacity for *Coartem* to the level of 60 million treatments per year. Final *Coartem* production in 2005 is highly dependent on the timely delivery of key raw materials; based on current supplier agreements, production is likely to reach 30 million *Coartem* treatments this year.

Global Effort

Artemisinin has been used for centuries in traditional Chinese medicine to treat fevers, including malaria. But the promise of *Coartem*, and other ACTs, reflects the synthesis of that traditional know-how with modern pharmacology. *Coartem* is a fixed combination of artemether, a chemical derivative of artemisinin, and lumefantrine, a synthetic compound. ACTs are the most potent killers of malaria parasites yet discovered; artemether starts working quickly, while lumefantrine acts more slowly, but gives an excellent long-term cure rate.

In 1994, Novartis licensed worldwide marketing rights to *Coartem* outside China. It became the first drug based on Chinese traditional medicine to obtain broad international patent coverage, and following clinical trials involving more than 3 000 patients won regulatory approval in 1998. Today, *Coartem* tablets are produced at a Novartis pharmaceutical plant outside Beijing, using artemether manufactured by a Chinese company and lumefantrine imported from Switzerland.

Combination therapy delays the development of resistance because there is a greatly reduced probability of parasites being simultaneously resistant to two active ingredients, with independent mechanisms of action, and different biochemical targets. *Coartem* achieved impressive cure rates of up to 95% in clinical trials but the first demonstration of the drug's effectiveness under real-life conditions came in KwaZulu-Natal.

Following a severe malaria epidemic in 1999 2000, KwaZulu-Natal adopted *Coartem* as first-line therapy. Both the total number of malaria cases, and associated deaths reported in the province, declined by more than 90% during the next two years.

Zambia became the first country in Africa to adopt *Coartem* as first-line therapy in national treatment guidelines. It was a controversial step, however, opposed by a number of key international donors, who argued that a country as poor as Zambia could not sustain such a costly treatment option. Considering that half of Zambia's national budget for health is donor-financed, such opposition was cause for concern.

But with financial support from the Global Fund, Zambia has confounded skeptics. Dr. Naawa Sipilanyambe, Zambia's Malaria Control Program Manager, insists that poor countries like Zambia with weak health systems have to use a multipronged approach when introducing ACT. "We've learned very quickly that ACTs can work," Dr. Sipilanyambe says. "But it's not just a matter of buying drugs and bringing them in. We also have to invest in capacity building in training and in logistics management, and other types of technical expertise."

Beyond the Traditional Role

Going beyond the traditional role of drug supplier, Novartis is supporting many of those capacity-building initiatives in Zambia. One example is a Malaria Case Management Educational Program held in Lusaka in September, attended by more than 350 health care professionals from around the country. Novartis also is assisting with stock management and forecasting programs and "operational research," to monitor and evaluate the new malaria policy.

At the same time, Novartis is racing to improve the availability and convenience of *Coartem* for the most vulnerable groups of malaria patients young children and pregnant women. In October, Swiss regulatory authorities approved the use of *Coartem* in infants with bodyweight as low as five kilograms, based on positive results of recent clinical trials using the well-established six-dose regimen. Previously, *Coartem* had only been approved for treatment of children weighing 10 kilograms or more. Regulatory authorities throughout Africa are expected to quickly adopt the new, lower bodyweight limit, significantly increasing the number of children who can be treated with *Coartem*.

In 2005, Novartis also will continue with the development of a new pediatric formulation of *Coartem*, in collaboration with Medicines for Malaria Venture (MMV), a nonprofit foundation dedicated to developing affordable new antimalarials. At the moment, parents crush adult *Coartem* tablets and give that crushed powder to young children.

Because of the bitter taste, however, children tend to spit out the medicine, so a more palatable pediatric form could improve compliance.

The crisis of "neglected" diseases in the developing world is so immense that making a difference for patients requires the combined efforts of unusual allies.

Developing a uniquely effective medicine, and making it available at no profit to millions of patients, paired an invention by scientists in China with the technical prowess of a Swiss pharmaceuticals company. The project benefited from influential endorsements from international organizations like the WHO, and nongovernmental organizations such as MMV. *Coartem* received critical financial backing from major international donors. And last but not least, bold policy changes were made by government officials across Africa.

Despite progress so far, we have barely scratched the surface in the challenge of rolling back malaria. Scaling up must continue with new partners and donors joining our efforts.

According to Dr. Sipilanyambe, the lifeline of effective tools is rekindling a fighting spirit among Zambia's hard-pressed health workers. "In the past, health providers gave up and just accepted malaria as something we couldn't do anything about," she says. "Now we're trying to get health workers to take malaria as a challenge and to believe it's something that can be fought, and actually defeated, if we work together."

Commitment to Our People

To remain one of the most respected health-care companies in the world, Novartis must continue to attract the best talent available across all our businesses. Our people must be constantly nurtured to develop their full potential and grow as business leaders with clear career paths to success.

There's no better symbol of the success of our recruiting efforts than the Novartis Institutes for BioMedical Research (NIBR). During the past 18 months, hundreds of the world's top scientists have joined NIBR's bold bid to establish a world-class US research center, deploying cutting-edge tools of biology, chemistry and genomics, at the frontier of science and medicine.

We have a permanent commitment to provide the best available training to Novartis managers worldwide, on a continuous basis. Last year, more than 3 000 Novartis managers or roughly two of every five managers at the first, middle and senior levels took part in corporate learning programs.

They were able to choose from a rich menu of programs targeting external focus, innovation, people and performance. And faculty was best-in-class. Building on the success of our initial strategic partnership with Harvard Business School, corporate learning collaborations today also include INSEAD, Stanford Business School and London Business School.

Novartis Corporate Learning is distinctive for its close integration with career development paths, focused support for group business goals, and active personal involvement of senior management. One example is the Business Leadership Program, or M3, a five-day forum at Harvard Business School that helps senior Novartis executives improve their leadership through better understanding of global challenges that impact the health-care industry. The faculty is headed by Thomas J. DeLong, the Philip J. Stomberg Professor of Management Practice at Harvard Business School. Internal speakers include Daniel Vasella, M.D., Chairman and Chief Executive Officer of Novartis; Mark Fishman, M.D., Head of Biomedical Research; and, Juergen Brokatzky-Geiger, Head of Human Resources.

"Identifying and developing talents is one of our most important priorities," Dr. Vasella says. "Better people produce better results. This belief and the corresponding action must be deeply embedded within Novartis."

A Marketing Excellence program was rolled out between 2000 and 2002 to strengthen marketing and sales, develop skills and drive a competitive spirit in the organization. Nomination to the Marketing Excellence Program remains an important step in career development for sales, marketing and brand managers in part because of intense interactions with senior group managers such as Thomas Ebeling, Head of Pharmaceuticals; David Epstein, Head of Specialty Medicines and the Oncology Business Unit; and Kurt Graves, Head of General Medicines and Chief Marketing Officer of Pharmaceuticals.

This year, a new Innovation Leadership Program will be rolled out in partnership with London Business School further improving the capacity of Novartis managers and associates to drive bold initiatives, and thus sustainable growth.

Active personal involvement of top managers in training; an innovative financing model; and the high degree of integration between training programs and formal career planning were all strengths cited by the European Foundation for Management Development last year, when Novartis became the first pharmaceutical company to win EFMD accreditation for the Group's corporate learning program.

Staff fluctuations 2004

Employees per January 1, 2004	**78 541**	**100%**
Separations	-2 507	-3%
Retirements	-766	-1%
Resignations	-5 705	-7%
External hirings	11 659	15%
Others	170	
Employees per December 31, 2004	**81 392**	**104%**

The high caliber of training also was a key factor last year when *Fortune* magazine named Novartis one of the "10 Great Companies to Work for in Europe."

NIBR

The rapid expansion of NIBR is building on a large base of scientific excellence that already existed at established Novartis research sites around the world. But new hires like established Novartis researchers respond to the call of making a difference by addressing human disease and unmet medical need, says Lynne Cannon, Global Head of Human Resources for NIBR. "The ability to make a difference is by far our most effective recruiting tool," she adds.

During the past 18 months, NIBR's Human Resources group has filled more than 800 positions almost two hires per business day.

To open opportunities for new recruits to reach full potential, NIBR strives to provide maximum support to scientists in both their work and their private lives insuring a healthy balance, and thus the emotional and intellectual energy needed to drive innovation. That support takes the form of ongoing education, attention to personal benefits and careful assessment of the resources needed to translate raw talent into professional success.

Succession Planning

Novartis continued to reinforce management "bench strength" last year in line with two prime objectives: insuring that two "ready now" successors are available for each top leadership position, and that at least 70% of these leadership vacancies are filled by internal candidates.

Those are demanding targets: previously a single "ready now" successor was identified for senior management posts. And the proportion of leadership vacancies filled internally reached 64% in 2004, compared to 51% a year earlier, but only 21% in the year 2000.

To support the new management succession objectives, Novartis has launched the Accelerated Development Program (ADP), designed to groom high-potential executives for challenging new roles throughout the global organization. Senior executives chosen for the ADP are considered likely candidates for promotion to posts such as divisional country heads in Top Ten markets within the coming five years.

Each ADP participant maps out a five-year personal development plan to complement and deepen experience. So far, almost 180 executives from Pharmaceuticals, Consumer Health, Finance, Development and Human Resources have been nominated to ADP and several participants have won promotions in line with their career development plans.

Employees by Region and Business per December 31, 2004

	US	Canada and Latin America	Europe	Africa/Asia/ Australia	Total
Pharmaceuticals (excluding Research)	11 397	4 758	19 993	8 133	44 281
Pharmaceuticals Research	893		2 083	68	3 044
Sandoz	998	1 202	8 970	2 227	13 397
OTC	851	417	2 071	708	4 047
Animal Health	581	278	884	505	2 248
Medical Nutrition	933	46	1 664	305	2 948
Infant & Baby	2 297	1 623	419	46	4 385
CIBA Vision	2 353	927	1 323	876	5 479
Consumer Health Divisional Management	4		38	2	44
Corporate	594	34	784	107	1 519
Total	**20 901**	**9 285**	**38 229**	**12 977**	**81 392**

(1) Figures represent headcount.

About 90 new participants will be selected for ADP in 2005 but this time candidates will be drawn from a more diverse mix of business units and global line functions.

As a complement to ADP, top group managers have introduced a mentoring program that reaches deeper into the organization to provide exposure to a more junior group of 30 40 high-potential executives. The mentoring program involves several focused days of interaction per year a significant time commitment by mentors. Participants are selected to reflect a balance of geography and experience as well as diversity in gender and ethnicity.

Diversity and Inclusion

In 2004, the Pharmaceuticals Division launched a Diversity & Inclusion initiative that aims to recognize and promote a greater diversity of talent throughout the organization and optimize our share of available talent world-wide, to the ultimate benefit of our business performance. Driven by a Diversity Council comprising members of executive management from across the global Pharmaceuticals business the long-term goal of the initiative is to consolidate competitive advantage in the market for talent, in the market for innovative ideas that deliver novel products, and in the commercial markets where Novartis seeks to serve its customers with excellence.

Those objectives will be achieved through a dual strategy of internal talent development and external hiring. This commitment to Diversity & Inclusion will become embedded in the organization through the objective-setting process for individual leaders. In 2005, the initiative will be rolled out across countries and global line functions. Management will identify local diversity priorities and opportunities, and develop action plans to address them.

We will gauge progress in Diversity & Inclusion through measurable results. We believe that long-term benefits will be seen in sustained high performance and success.

Commitment to Health, Safety and Environment

Novartis has built a leading position in Health, Safety and Environment (HSE) by managing risks proactively, applying sound science and technology, and fostering cooperation and deployment of uniform corporate standards at sites around the world. We communicate our objectives to external stakeholders and report on our performance each year in the Annual Report.

As in recent years, HSE activities during 2004 focused on reducing carbon dioxide (CO_2) emissions and improving energy efficiency; limiting water consumption; and continuing to lower the number of industrial accidents, as well as promoting the health of our associates. This section of the Annual Report describes the most important measures taken during the year to fulfill our ambitious HSE targets.

In 2001, Novartis set a target of reducing Group CO_2 emissions by 3% by the end of 2003. The actual reduction achieved by the end of 2003 was 2.8% in spite of 4.8% growth of production during the period. Our level of CO_2 emissions relative to sales is well below the pharmaceutical industry average.

The integration of Lek Pharmaceuticals, the leading drug company in Slovenia acquired by Sandoz two years ago, allowed steady progress in reducing CO_2 emissions, as well as water consumption. Lek sites obtained ISO 14001 recertification in 2004 an important validation of the quality of HSE management.

While Novartis remains committed to further reduction of CO_2 emissions and will report absolute levels of CO_2 emissions annually HSE activities relating to energy have entered a new phase. The Group has adopted energy-efficiency targets for 2004 06, calling for each business unit to improve energy efficiency by 2% a year. Half of this reduction, 1% of annual consumption, should come from concrete energy-saving projects.

Relatively modest improvements in energy-intensive processes like fermentation can generate large savings. This year Sandoz will continue to redesign its mainstream fermentation operations, incorporating advanced technology in line with the Group-wide energy-efficiency objectives.

Many other Novartis facilities around the world have had a continuous focus on energy efficiency for years. Further improvement toward the new energy-efficiency target will require deployment of a number of separate programs, together delivering significant energy savings.

During 2004, the Pharmaceuticals Division completed energy audits at larger energy-consuming sites and proposed a range of projects to be implemented in 2005 06.

Risk Portfolios

Each year, the sites develop risk portfolios, which are consolidated at Group level. The portfolio, and a list of priority risks warranting action, are presented to the Executive Committee. During 2004, Group sites eliminated 24 of the year's priority risks through measures ranging from better earthquake protection in Japan and improved fire protection at plants in Switzerland and Brazil, to upgrading cooling systems to reduce risks of ammonia leaks at facilities in the US, Costa Rica and Poland.

All Divisions, Business Units and the Research Organizations have started to implement Business Continuity Management. In particular, vulnerability studies for defined key business processes have been conducted, and appropriate strategies elaborated. The implementation of preventive actions and measures is ongoing. The development of Business Continuity Plans has been initiated and will continue through 2005 06.

The assessment and safeguarding of chemical landfills from company activities several decades ago is a continuing task of risk reduction. In response to requests from authorities in Germany, France and Switzerland, the local chemical and pharmaceutical companies in the Basel region including Novartis have formed a consortium to assess all former landfills, and to seek timely solutions to the possible consequences of past disposal practices.

Considerable progress has already been made regarding the cluster of landfills in the Basel region, and the aim of concluding all risk assessments by 2007 is in sight. Discussions with the respective authorities are at an advanced stage, or have already culminated in formal agreements. The risk assessments being conducted by external specialists in this field will allow the authorities to determine if remediation is needed and if so, to establish details of the subsequent remediation program.

The Lost-Time Accident Rate (LTAR) is one of the most tangible measures of employee safety on the job. For the seventh consecutive year Novartis lowered the Group's LTAR, reaching in 2004 the longstanding goal of 0.5 accidents per 200 000 person-hours. That performance compared with LTARs of 0.7 in 2003, and 1.62 in 1997.

HSE Objectives and Achievements for 2004-2005

	Results 2004	New Targets 2005
Group Targets	LTAR achieved 0.48 (target 0.50)	LTAR: Achieve 0.45 lost time accident rate by 2006
	2% energy-efficiency[(1)] improvement exceeded	Achieve an average 2% energy-efficiency improvement over the years 2004 2006
Pharmaceuticals	LTAR achieved 0.46 (Pharma target 0.50)	LTAR ≤ 0.45
	Energy-efficiency improved by 10%	Energy-efficiency improved by further 4% by 2006.
	Releases of drug substances to the environment reduced by 15%	Further reduction of drug substances releases in effluents from manufacturing sites by 15% versus 2004
	HSE management systems introduced at 65% of major manufacturing sites	Full implementation of HSE management systems comparable to ISO 14001/OHSAS 18001 at all strategic Pharmaceutical Manufacturing Sites
		Develop concept for improvement of water efficiency
		Identify improvement potential for hazardous waste reduction
NIBR & Corporate Research	LTAR achieved 0.37 (target 0.50)	LTAR ≤ 0.45
	Energy-efficiency improvement achieved 2.8%	Energy-efficiency improved by further 4% by 2006
	Guidance Note on handling scheme for research compounds developed	Substance handling and sample transportation schemes implemented
Sandoz	LTAR achieved 0.72 (BU target:< 1)	LTAR ≤ 0.70
	Energy-efficiency improvement achieved 11%	Energy-efficiency improved by further 4% by 2006
	Lek (Slovenia) to a great degree integrated	VOC: Reduction by 50% relative to production till end of 2006, based on emissions 2003
	Business Interruption Criteria defined	
Over-the-Counter (OTC)	LTAR achieved 0.34 (BU target 0.45)	LTAR ≤ 0.35
	Energy-efficiency improvement partly achieved, however 2006 goal in reach	Energy-efficiency improved by 6% in 2006 versus 2004
		Handling of active substances assessed with regard to safety and industrial hygiene, and necessary measures initiated
	Third-party audits conducted for 4 suppliers, pre-audits for additional 5	Complete third party audits for top 15 suppliers
Animal Health	LTAR not achieved 0.56 (BU target 0.50)	LTAR ≤ 0.45
	Energy-efficiency improvement achieved of 19% at Wusifarm, China	Further improve energy-efficiency at Wusifarm, China
	Third-party contractors: HSE aspects integrated in contracts at headquarters, 15 suppliers in South East Asia and third-party suppliers in Brazil audited	Integrate Risk Management System
Medical Nutrition	LTAR achieved: 0.10 (BU target 0.60)	LTAR ≤ 0.40
	Energy-efficiency improvement achieved 2.8%	Energy-efficiency improved by 6% in 2006 versus 2003
	Third-party audits achieved: 10 (target 4)	
Infant and Baby	LTAR achieved 0.29 (BU target 0.33)	LTAR ≤ 0.30
	Energy-efficiency improvement achieved 8%	Energy-efficiency improved by further 4% by 2006
	3 third party audits (HSE and CC) conducted; China 2, Korea 1 (BU target 2)	Further third-party contractor audits
CIBA Vision	LTAR achieved 0.23 (BU target 0.50)	LTAR ≤ 0.45
	Energy and water efficiency only improved in in selected sites, however not on BU level	Energy-efficiency improved by 6% in 2006 versus 2003
		Audit of all external waste transportation and disposal operators

BU Business Unit; HSE Health, Safety and Environment; LTAR Lost-Time Accident Rate (per 200 000 person-hours); VOC Volatile organic compounds; NIBR Novartis Institutes for BioMedical Research; CC Corporate Citizenship.

(1) Energy-efficiency based on most representative denominator (e.g. sales, production, employee)

While many Novartis sites are located in water-rich areas, ample supplies of water loom as a key environmental issue of the future. Benchmarking studies have shown that Novartis consumes more water than major pharmaceutical-industry peers reflecting heavy demand for cooling water at Sandoz factories as well as in the production of contact lenses at the CIBA Vision business unit. Both business units have stepped up investments in recycling technologies to reduce water consumption; the significant decrease in this area achieved by CIBA Vision's contact lens plant in Johns Creek offers an example of best practice for other Group units around the world.

As a leading health-care company, Novartis is known for maintaining and restoring health; this commitment is equally applicable to the health and well being of associates working for the company.

Additional details on HSE activities can be found at www.novartis.com/hse.

Energy-efficient Fermentation: Kundl, Austria

At the main Sandoz production site in Kundl, Austria, energy-intensive fermentation processes for the manufacture of antibiotics account for a large proportion of total energy consumption. When Kundl embarked on an energy reduction program in 1999, fermentation was a prime target.

The result was a new process that increased productivity by about 20%, while reducing CO_2 emissions by 22 000 tons per year and annual energy consumption by 86 GWh. The USD 13 million investment saves USD 3.9 million per annum. Ongoing activities are expected to further reduce long-term energy requirements.

Kundl's giant fermenters, with a capacity of up to 250 000 liters per reactor, require vast amounts of energy to feed raw materials and cooling water, as well as for stirring the culture broth. Steam is also needed for the inactivation of foreign organisms that could contaminate production.

Kundl's new process incorporates novel design features such as a computer-supervised control system for optimized operation of steam boilers. Lowering the inflow temperature to air compressors made it possible to achieve higher compression efficiency and decrease power consumption in the air pressure system. Efficiency of feed pumps was increased by reducing system pressure in both main cooling systems.

Water Recycling Plant: Atlanta, Georgia

Water is a critical element in virtually every step of production of CIBA Vision's *Focus DAILIES* contact lenses, from the mixing of the raw material polymer to high-pressure washing of the lens production molds.

However, water is a limited resource in Atlanta. The Chattahoochee River, which supplies 70% of nearby Atlanta's water, is the smallest watershed of its kind in the United States, yet it supplies the largest water demand of any metropolitan region in the country. Alarmingly, the Chattahoochee has been listed twice among the most endangered US rivers reflecting repeated raw-sewage spills into the river from the Atlanta sewer system, which has failed to keep pace with the city's explosive growth.

By the time CIBA Vision's Johns Creek plant reached full capacity utilization in 2002, daily water demand was expected to approach 7 600 cubic meters. Nevertheless, the final water permit issued in March 2001 allowed daily discharge of only 3 200 cubic meters 58% below the plant's projected demand. So some form of water recycling became a business-critical requirement to meet the needs of the manufacturing operations.

CIBA Vision responded with a plant reengineering plan, cutting water consumption through operational efficiencies, and the construction of an on-site water recycling and purification system to permit reuse of wastewater.

It proved to be an economic windfall, as well as an environmental success story. The recycling plant cost USD 2.2 million to build and install, but since start-up of the system in September 1999, cumulative savings have reached USD 1.5 million.

Recycling of wastewater, combined with a careful reassessment of all water use at the site, enabled Johns Creek to cut discharge of water dramatically to 300 cubic meters per day.

The Johns Creek water recycling system also has lowered the risk of contamination of process water supply, improving lens quality and reducing the number of product recalls.

Bagasse Renewable Fuel: Mahad, India

Two fuel-oil-fired boilers, used to generate steam at a Sandoz production facility in Mahad, India, were a prime target for the energy-efficiency program. The boilers consumed 4.5 tons of fuel oil per day, an expensive energy source as the price of oil climbed relentlessly, but even more importantly, the boilers emitted 21 tons of SO_2, a primary cause of acid rain. In fact, SO_2 emissions from the two Mahad boilers represented one-sixth of the Novartis Group's total annual SO_2emissions.

In April of last year, the Mahad plant completed installation of a new boiler using bagasse, fibrous waste from sugar cane that is a by-product of sugar production. Bagasse is a promising source of renewable energy in countries ranging from India and Pakistan to Costa Rica and Brazil. The new boiler design will save an estimated USD 150 000 per year and lead to a significant 40% reduction in emissions of SO_2.

In an added benefit to Mahad employees, the conversion to bagasse reduces risks associated with the transportation and handling of fuel oil. And at a time of volatile sugar prices and growing economic pressures on cane producers, use of bagasse as a renewable energy source can provide a stable, additional revenue stream. At the same time, Thurbe, our second chemical site in India, is now using a low-sulphur furnace oil with a sulphur content of less than 2% w/w., i.e., 50% less sulphur at marginally higher cost.

NIBR Headquarters Building: Cambridge, MA

The Novartis Institutes for BioMedical Research (NIBR) in Cambridge, MA, overcame potential environmental concerns in transforming a 46 500 m^2 former candy factory, dating from the 1920s, into a state-of-the-art research laboratory that opened in April of last year.

The metamorphosis began with only the frame of the former New England Confectionery Co. (NECCO) building standing and involved removal and disposal of asbestos and PCB ballasts/transformers, lead-based paints, surfaces with potential to cause microbiological growth and soils on the property impacted with petroleum and small amounts of other hazardous substances. This extensive remediation of the property has resulted in an environmentally friendlier space for the community, as well as the associates working in the building.

The new building will ultimately be home to more than 700 scientists. It was designed to achieve a high energy efficiency standard relative to local requirements, with installation of laboratory hood exhaust controls, high-performance chillers, high-performance lighting and a heat recovery system.

A new air humidification system reduced safety risks associated with static electricity, and the fire protection systems are state of the art. As a result, the new building will receive the 2005 Novartis Risk Quality Award for achieving 100% of the maximum achievable risk rating. These investments will lead to estimated CO_2 emission savings of 4 500 tons per year and an annualized cost saving of USD 1.2 million.

Health Promotion: Switzerland and Costa Rica

Two years ago, the Pharma Affairs function launched a Health Promotion program for associates based at sites in Basel. Convenient activities available to associates range from smoking-cessation counseling and dietary programs, to skin cancer screening and flu shots.

During 2004, more than 1 000 associates received health check-ups, screened their blood pressure, sought medical counseling or participated in the site's yearly Non-Smoking Day. More than 100 associates were screened for skin cancer with two early-stage, malignant skin cancers detected and successfully treated. More than 400 people attended Healthy Nutrition events, and roughly 13% of daily lunches served at the Basel staff restaurants are fit@work lunches containing less than 500 calories to help associates shed extra pounds without depriving themselves of sound nutrition.

At the Group's industrial sites around the world, ergonomics is a key dimension of health protection. For the past five years, hundreds of banana peelers at a Gerber Products baby food factory in Cartago, Costa Rica, have followed a physical therapy program to avert cumulative trauma syndrome (CTS).

A disorder that results from accelerated or aggravated repetitive movement or poor working postures, CTS can lead to severe symptoms such as tendonitis, and muscle contractures. Cartago's mandatory, collective exercise program employs special equipment and postures to build strength, flexibility and resistance to CTS. All peelers repeat the collective program at least every two weeks. In addition, therapists work out individual exercise programs for peelers for recovery during short production breaks or unscheduled stops.

Correct posture and constantly switching between standing and resting positions helps to minimize fatigue during working hours. Peelers also learn to alternate hands when peeling bananas; to grab the fruit so that their whole palm and fingers make contact with the fruit's surface; and to rest their bodies on the leg opposite the peeling hand.

Health, Safety and Environment 2004 Data

	Pharmaceuticals		NIBR & Corporate Research		Consumer Health Division												Novartis Group				
					Sandoz		OTC		Animal Health		Medical Nutrition[4]		Infant & Baby		CIBA Vision		% Change				
	2004	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004/2003**	**2004**	**2003**	**2002**	**2001**
Employees																					
HSE personnel [employees working at least 50% for HSE]	**179**	174	**19**	2	**139**	121	**9**	12	**30**	30	**7**	8	**64**	97	**22**	32	-2	**469**	477	448	502
Finance																					
HSE investments [USD millions]	**66.2**	80.7	**1.98**	0.94	**13.3**	8.2	**0.78**	0.70	**0.47**	0.90	**5.97**	2.08	**1.69**	2.79	**0.48**	0.55	-6	**90.9**	96.8	33.8	25.7
HSE expenses [USD millions]	**106**	95.1	**13.6**	5.88	**52.5**	36.5	**3.77**	4.33	**2.42**	2.86	**4.33**	4.25	**7.04**	8.01	**6.42**	6.61	20	**196**	164	140	126
Production																					
Total production [1 000 t = metric tons]	**22.4**	25.2			**100**	101	**15.9**	14.9	**3.19**	3.05	**139**	132	**351**	329	**15.6**	16.5	4	**647**	622	692	673
Resources																					
Water consumption [million cubic meters]	**16.6**	17.7	**1.08**	0.81	**62.2**	66.9	**0.41**	0.50	**0.71**	0.82	**0.85**	1.06	**4.24**	4.44	**0.84**	0.82	-7	**86.9**	93.0	90.3	89.8
Energy consumption [million GJ]	**4.91**	5.09	**0.92**	0.53	**6.83**	6.64	**0.29**	0.32	**0.18**	0.18	**0.41**	0.40	**2.04**	2.07	**0.80**	0.76	2	**16.4**	16.0	15.7	15.0
Health/safety																					
Lost-time accident rate [accidents per 200 000 hours worked]	**0.46**	0.64	**0.37**	0.70	**0.72**	1.17	**0.34**	0.32	**0.56**	0.72	**1.08**	0.75	**0.29**	0.26	**0.23**	0.50	-31	**0.48**	0.70	0.71	0.72
Lost work day rate [lost days per 200 000 hours worked]	**9.28**	12.2	**2.48**	4.94	**15.5**	14.3	**0.95**	4.64	**5.28**	2.77	**23.7**	19.1	**3.28**	8.44	**4.59**	10.6	-21	**9.16**	11.6	13.0	11.9
Water emissions[1]																					
Effluent discharge [million cubic meters]	**3.11**	3.69	**0.28**	0.20	**8.56**	15.7	**0.12**	0.13	**0.12**	0.60	**0.83**	0.66	**3.05**	3.12	**0.45**	0.53	-33	**16.6**	24.6	21.7	21.0
Chemical oxygen demand COD [1 000 t]	**0.29**	0.47			**3.24**	3.68	**0.05**	0.06	**0.01**	0.01	**0.70**	0.30	**0.04**	0.04	**0.09**	0.13	-6	**4.40**	4.69	4.41	4.27
Water constituents [t] (susp. solids, nitrogen, phosphate, particulates, soluble salts)	**2.71**	6.73		0.01	**18.2**	16.8	**0.18**	0.52	**0.00**	0.00	**0.00**	0.00	**0.04**	0.04	**0.24**	0.17	-12	**21.5**	24.3	25.0	21.3

	Consumer Health Division															Novartis Group				
Air emissions																				
Carbon dioxide [1 000 t][2]	**154**	170	**13.7**	4.74	**162**	158	**10.3**	11.8	**5.99**	6.05	**15.1**	17.1	**84.8**	98.6	**13.1**	9.82	-4	**459**	476	473	457
Total air emissions (SO_2, NOx, particulates, HCl, NH_3)[5] [t]	**193**	218	**15.9**	3.62	**224**	288	**10.9**	10.9	**20.8**	45.6	**19.6**	12.9	**90.9**	96.6	**9.9**	10.7	-15	**581**	686	691	903
Volatile organic compounds (VOC) halogenated [t]	**11.0**	11.2			**280**	345	**0.02**	0.00			**0.00**	0.00	**0.00**				-18	**292**	356	421	759
Volatile organic compounds (VOC) nonhalogenated [t]	**177**	196			**766**	1 060	**22.3**	18.0	**10.6**	5.63	**0.00**	0.00	**0.60**	0.59	**26.7**	42.1	-23	**1 010**	1 320	1 320	1 110
Waste[3] [1 000 t]																				
Nonhazardous waste generated	**91.9**	80.3	**2.19**	1.36	**20.6**	16.9	**3.02**	2.85	**0.75**	0.73	**10.8**	10.3	**74.8**	80.7	**5.90**	5.69	6	**210**	199	183	199
Hazardous waste generated	**84.6**	56.7	**0.50**	0.41	**28.1**	25.3	**0.35**	0.19	**0.59**	0.61	**0.02**	0.03	**0.03**	0.02	**0.31**	0.21	38	**115**	83.5	72.4	62.4

Note: Table shows absolute values with three significant digits, 0.00 signifies values below 0.005; Blank signifies not applicable; more detail can be found in the HSE website.

(1) To wastewater treatment plant excluding cooling water.

(2) Calculated based on energy breakdown.

(3) Difference between generated and handled waste in 2004 due to treatment of waste stored in previous years.

(4) Including Nutrition et Santé.

(5) Hydrochloric acid (HCl); ammonia (NH_3).

Fines and Compliance

In 2004 a global sum of USD 21 000 was paid in fines for minor HSE violations. There were four minor on-site spills with no off-site affects.

Global Reporting Initiative (GRI)

The Global Reporting Initiative was launched in 1997, with the aim to establish globally applicable guidelines for reporting on sustainable management. Novartis will provide a report on 2004 operations in the GRI format. That report along with a more detailed overview of our HSE performance is available on our HSE website (www.novartis.com/gri).

HSE Performance and Data Management

Globally, we now have over 400 dedicated HSE specialists who continuously analyze our risk portfolio and drive action plans worldwide. Together with senior management, these HSE specialists have defined key performance indicators (KPI) for our HSE-related objectives. The KPIs for 2004 are based on the data input from 150 sites managed by Novartis Group companies in 2004 including all manufacturing, formulation and research and development sites with significant impact on the Group's overall HSE-related performance. In 2004, six locations reported for the first time while four Pharma sites were closed.

Key HSE data are collected and reviewed on a quarterly basis, the bulk of indicators are collected on an annual basis. The data on emissions and resources posted on our website are actual data for the period January September 2004 but include estimates for the October December period. Those estimates will be updated during the first quarter of 2005. Significant deviations from the estimates will be reported on our website, and in next year's Annual Report. The accident and financial data reported are actual data for the full year. Accounting principles are reported in GRI format on the GRI website (www.novartis.com/gri).

Restatement of 2003 Data

The emissions and resource data published in the 2003 Annual Report included estimates for the October December period that required significant adjustments in several areas. Estimated halogenated VOC proved to be 30 tons too low, while estimates for nonhalogenated VOC were 230 tons too high. The estimate for nonhazardous waste also had to be raised, by 13 000 tons. The Data Table in the 2004 Annual Report includes corrected figures for 2003.

The data collection process and performance system is part of the Corporate Citizenship assurance process. In gathering this data, we take into account impacts originating on our premises, together with major material flows across their boundaries. We currently do not measure impacts from the manufacture of purchased goods, energy or transportation by third parties.

Air Emissions

Our CO_2 emissions decreased by 4% in 2004, compared with the previous year, although the Group's production tonnage increased by 4%, and several research sites were included among reporting sites worldwide for the first time.

Energy substitution projects replacing coal at Wusifarm in China and heavy oil at the Sandoz site in Mahad, India cut Group SO_2 emissions by 25%.

In 2004, halogenated VOC emissions fell by 18%, continuing a positive trend of recent years. Last year's reduction reflected process improvements at Sandoz sites as well as process modifications at the Pharma production facility in Grimsby, UK.

Normally halogenated VOC emissions are replaced by less critical nonhalogenated VOC emissions but we are pleased that the Group has succeeded in also reducing nonhalogenated VOCs.

Waste

Normally waste quantities are related to production volume and product yield. However, the ongoing redevelopment of a new campus at Group headquarters in Basel has a significant impact on our waste generation. In particular, decommissioning of old buildings in Basel last year resulted in a 38% increase of hazardous waste, most of which was incinerated. We disposed of 19% of total debris in a secure landfill. Nonhazardous waste increased as a result of the campus redevelopment project offsetting a 7% reduction of nonhazardous waste by the Infant & Baby Business Unit of Novartis Consumer Health.

Debris from demolition of buildings in Basel and East Hannover is expected to continue over the next few years. Hazardous waste generated by Sandoz rose 11% last year, as a consequence of the rising proportion of newly developed products where solvent recovery could not be established or optimized up to now.

Our waste reduction strategy is to first prevent waste but then to reduce, recycle or safely dispose of the waste that is generated.

Resource Consumption: Energy and Water

Overall energy usage by Novartis rose by approximately 2% in 2004 mainly due to changes in the product mix at Sandoz, as well as the build-up of the Novartis Institute for BioMedical Research (NIBR) sites in Cambridge, MA, and the inclusion of the three Novartis Corporate Research Institutes.

Water consumption decreased by 7% to a level below that in 2001, partly because of milder temperatures in Europe during the summer months.

Accidents

This year we achieved our ambitious target of 0.5 for Lost-Time Accident Rate (LTAR). This achievement is the result of a strong commitment to safety by all Group sites. In addition to technical improvements and ongoing safety activities, many sites successfully launched programs to improve safety by changing behavior. We are committed to this approach and have lowered our LTAR target to demonstrate continuous improvement.

We sincerely regret the occurrence of one fatality this year. One of our sales representatives died in a car crash in Egypt while traveling to meet a customer. We would like to extend our sincerest sympathy to the family and friends of the deceased.

Commitment to Business Conduct

Novartis is determined to apply high ethical standards of business conduct, while remaining competitive in the marketplace.

A comprehensive set of policies and guidelines has been incorporated as an integral part of Group management procedures, and is supported by global training and compliance programs. Our Corporate Citizenship Policy, Code of Conduct and commitment to the 10 principles of the United Nations Global Compact must be lived day-to-day by all associates.

The Global Compact asks companies to embrace, support and enact a set of core values in the areas of human rights, labor standards, the environment and anti-corruption. Through Corporate Citizenship Guidelines and our commitment to the UN Global Compact, Novartis accepts a broader role in society and in many cases goes beyond legal duties.

A Compliance Organization has been established, with more than 100 Compliance Officers worldwide assisting management to promote and maintain a culture in which all associates behave ethically and lawfully. Novartis applies a zero-tolerance standard to violations of the Code of Conduct or promotional practice policies.

To ensure consistently high standards in marketing, sales and communication throughout the Novartis Group, a set of principles governing promotional practices worldwide was established two years ago. These uniform global principles apply to all Novartis businesses, though exceptions may be explicitly granted.

"Applying a single ethical standard globally can be culturally sensitive. That's particularly true in cases where practice or customs although locally acceptable and legal deviate from this standard," says Dan Ostergaard, Global Compliance Officer for the Novartis Pharmaceuticals Division. "It may put Novartis at a competitive disadvantage in the short term in certain countries, and with certain customers where local competitors apply lower standards. Nonetheless, it is the right thing to do and I'm confident our high ethical standard also makes good business sense," Mr. Ostergaard adds.

Top management has demonstrated strong, continuous support for the new standards, underlining the importance of the promotional practices policies.

Code of Conduct

Our Corporate Citizenship Policy, Code of Conduct and related policies form an integral part of the employment terms of every associate. However, it is not sufficient to merely distribute these policies and assume that associates understand what is expected of them.

Through our ethics and compliance program, we provide our associates with tools in order to reach a solid level of understanding ensuring that associates not only read about their obligations but also understand and conduct business in adherence to the relevant policies. Our associates have been required to complete a number of mandatory training courses, depending on the functional role the individual associate performs.

New guidelines on "Reporting Potential Violations of Law and Policies" were introduced and communicated to Novartis associates worldwide, giving the associates clear direction for addressing any concerns, should they arise. The new guidelines address requirements of the Sarbanes-Oxley Act, a US law passed in 2002 to strengthen corporate governance and restore investor confidence after a succession of corporate and accounting scandals.

Sarbanes-Oxley established new accountability standards and criminal penalties for corporate managements. The guidelines issued by Novartis provide instructions for reporting fraud and inappropriate behavior, explain whistleblower protections and encourage associates to seek clarifications of policy rules when necessary. Novartis also has several third-party, toll-free hotlines in place to facilitate effective reporting of violations.

Following a decision by the Board of Directors last year, we began to publish selected cases of inappropriate behavior by associates on the Novartis Intranet.

Intensification of Training and Communication

One clear result of stricter enforcement of law and policies within Novartis has been an intensification of training programs for associates. Compliance e-learning was rolled out worldwide during 2004; courses are being offered in 10 languages.

The Compliance organization maintains records of which associates receive training, and when, to demonstrate that the Group's compliance programs are effective, as required under the new US Sentencing Guidelines.

Results of our Corporate Citizenship-Related Projects in 2004 and Targets for 2005

	Results 2004	Targets 2005
UN Global Compact	Active participation at the CEO meeting June 2004; support the anticorruption principle; progress update in Annual Report	Active participation in Global Compact initiatives on governance and human rights
Third-Party Management	Informed suppliers from 40 countries, with annual sales to Novartis greater than USD 10 000, of our commitment and expectations; requested compliance data from key suppliers; conducted five supplier audits	Develop and implement a sustainable process for classification of third parties and monitoring adherence to Novartis Corporate Citizenship guidelines; expand supplier-assurance visit program; develop improvement programs for noncompliant suppliers
Respect for human rights	Held 12 internal and 19 external workshops and a symposium on "Right to Health"; trained associates in nondiscrimination and mutual respect; member of Business Leaders' Initiative on Human Rights	Presentation at a UN Global Compact conference in Shanghai; Human Rights integrated into e-learning course
Working conditions	Local living wage under development worldwide; Pharmaceuticals Division established a global Diversity Council	Close living-wage gaps; increase gender diversity in management; develop indicators for training scope and intensity
Fair-marketing practices	More than 90% of marketing and sales staff trained; Pharma marketing policy revised and approval committee established; 11 internal audits	Complete implementation of marketing practicies policy by Consumer Health; further training through e-learning module for field force; close training gaps
Bioethics	Published position on 21 important topics (stem cells, biodiversity, animal welfare)	Publication of position statements and expansion of stakeholder dialogue
Stakeholder engagement	Shareholders: Novartis in the leading group of the Dow Jones Sustainability Indexes; expanded interactions with patient groups; web-based issue surveillance: lobbying expenditure USD 23 million, mostly through US and Swiss Pharma associations	Novartis among highest-rated companies by SRI (Socially Responsible Investment) analysts; publication of our stakeholder approach; global forum fall 2005
Transparent reporting	Additional information published in the Annual Report and distributed to socially responsible investors; GRI(1) reporting framework developed	Publication of 2004 report in GRI format early 2005 on the internet
Management/framework	Global management and review processes on Corporate Citizenship established and continuous improvement ongoing; internal audits and external assurance established	Each operational unit to establish a leadership area, to strengthen integration of Corporate Citizenship and address key challenges
Code of Conduct	E-learning program for Code of Conduct established globally for all associates with access to e-mail	Finalize 10 language versions, including face-to-face meetings for non-email users; develop courses on conflict of interest and financial integrity; refresher programs to be started
Involvement of employees	Corporate Citizenship and Code of Conduct integrated into orientation days for more than 90% of new associates	Survey of associates on Corporate Citizenship and Code of Conduct; support local management in contacts with works-councils/unions
Access to Medicine	Coartem production capacity scaled up to meet dramatically increased demand; commitment to produce up to 30 million treatments, pending availability of raw material; pilot training program for 350 health-care professionals in Zambia	Establish supply chain for annual production of up to 60 million treatments; clinical trials of pediatric formulation; support field programs in Zambia

(1) Global Reporting Initiative; www.globalreporting.org

For further details regarding Novartis Corporate Citizenship Policy, please visit: www.novartis.com/corporatecitizen

During 2005, training will remain a priority. Face-to-face training on the Code of Conduct will be held for associates worldwide who lack access to e-mail.

A revised version of the Pharmaceuticals Division's promotional practices policy was issued at the beginning of this year. Revisions in the policy addressed possible shortcomings such as training requirements for external sales forces promoting Novartis products. The revised policy now obliges these companies to undertake training to apply the Novartis standards of business conduct.

Compliance by Suppliers

In August 2003 the Novartis Group Executive Committee issued Corporate Citizenship Guideline No. 5, extending to third-party suppliers the societal and environmental values adopted by Novartis under its commitment to the Global Compact. According to the Guideline, a third party's commitment to Corporate Citizenship must be assessed, and constitutes an important element, together with evaluation criteria such as price or quality, in the choice of a supplier.

Novartis acknowledges that differences exist in legal and cultural environments in which our business partners around the world operate. Nevertheless, Novartis expects compliance with its standards by suppliers and intends to work collaboratively with third parties to achieve the goals of Corporate Citizenship on a long-term and sustainable basis.

As part of implementation of the Guideline last year, Novartis suppliers received extensive information about the Corporate Citizenship commitments and values to which they are expected to adhere. Suppliers were asked to provide accounts of their own policies, and Corporate Citizenship assurance visits were piloted in selected countries in combination with existing internal quality and Health, Safety and Environment (HSE) audits.

Novartis Mexico adopted an ambitious, eight-stage implementation blueprint, beginning with translation of Guideline No. 5 into Spanish. In addition, clauses outlining adherence to Corporate Citizenship policy were added to contracts with all existing suppliers.

Mexico also classified its suppliers according to their strategic importance and the volume of business with Novartis, and Corporate Citizenship Awareness Workshops were organized for 600 of the country organization's top 1 000 suppliers.

Animal Welfare

Animal experiments are an essential component of the development of modern medicines. Regulatory authorities around the world require testing of a new medicine in animals during early stages of discovery and development before testing in human beings is allowed.

Novartis performs experiments with animals only when scientifically necessary and where alternative approaches are not appropriate. Animals used in testing or experiments are bred especially for that purpose.

The company's animal welfare policy includes requirements and responsibilities which often go beyond local animal welfare regulations. Novartis requires that external partners adhere to the same standards under all contracts involving current and future animal testing. Internal audits verify compliance with those standards.

Independent Assurance Report on the Novartis Group Corporate Citizenship Reporting

To the Audit and Compliance Committee of Novartis AG, Basel

We have performed evidence-gathering procedures on the following aspects of Corporate Citizenship ("CC") and Health, Safety and Environment ("HSE") reporting of Novartis AG, Basel and its consolidated subsidiaries (the "Group"), all for the year ended December 31, 2004 (hereafter jointly referred to as the subject matter):

- The management and reporting processes for CC and HSE;
- The HSE key figures "Health, Safety and Environment 2004 Data" on page 65 of the Novartis Annual Report (the "Report");
- The CC key figures "Employees by Region and Business" found on page 57 and "Employees by gender" and "Management by gender" which are found on page 58 of the Report.

We have evaluated the subject matter against the following evaluation criteria: the CC Policy including the Code of Conduct prepared by the Group and the principles summarized in the section "HSE Performance and Data Management" on page 66 which defines the scope of the reporting, the inherent limitations of accuracy and completeness for the HSE information, and the fact that the CC management process is in its third year of operation.

The board of directors of Novartis AG, Basel is responsible for both the subject matter and the evaluation criteria.

Our responsibility is to report on the internal reporting processes, data and key figures for CC and HSE based on our evidence-gathering procedures in accordance with the International Framework for Assurance Engagements, approved December 2003 by the International Auditing and Assurance Standards Board (IAASB).

We planned and performed our evidence-gathering procedures to obtain a basis for our conclusions in accordance to the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Information", approved December 2003 by the IAASB. However, we have not performed an audit according to International Standards on Auditing. Accordingly, we do not express such an opinion.

The scope of our evidence-gathering procedures was to:

- Observe the existence of internal management processes which ensure the implementation of the CC Policy including the Code of Conduct across the Group;
- Test the effectiveness of the internal reporting system used to collect CC and HSE information from Group subsidiaries;
- Observe compliance with the Group internal HSE reporting guidelines at selected sites; and
- Perform, on a sample basis, certain procedures on the 2004 CC and HSE key figures.

Our evidence-gathering procedures included the following work:

- Interviewing personnel responsible for CC management at Group level;

Visiting the Sandoz business unit global headquarters, selected country and business unit headquarters and specific sites in Brazil, France, Germany, Italy, Slovenia and the United States;

- Interviewing the personnel responsible for CC management, including CC reporting and CC key figures, in the different headquarters where our visits took place;

- Performing tests on a sample basis of evidence supporting selected HSE parameters with regard to the reported data aggregation from the selected sites to Group level; and

- Reading and performing tests on a sample basis of the relevant documentation including Group policies, management and reporting structures, documentation and systems in place to collect, analyze and aggregate reported CC and HSE key figures.

In our opinion the Group level reporting system for the collection, analysis and aggregation of the reported HSE key figures is functioning as designed and the Group level processes intended to implement the CC policy are functioning as designed, in all material respects, based on the principles detailed in paragraph 2 of this Assurance Report.

Based on our work described in this report, nothing has come to our attention that causes us to believe that the Group level CC reporting does not provide an appropriate basis for the disclosure of CC information across the Group or that the reported 2004 CC and HSE key figures from the sites and reporting units do not give a fair picture of the CC and HSE performance, in all material respects, based on the the principles detailed in paragraph 2 of this Assurance Report.

From our work, we have provided the following recommendations to the management, which have been agreed:

- Novartis should re-assess, re-define and implement the necessary level of management control procedures over CC and HSE reporting;

- Novartis should assess the suitability of the CC organization to meet Novartis' CC goals, especially the horizontal coordination at country level and the corresponding roles of CC Executive, Third Party Officer (3PO), Compliance Officer; and

- Novartis should ensure the effectiveness of the CC initiative through appropriate incentives and training.

PricewaterhouseCoopers AG

Dr. Thomas Scheiwiller Thomas Frei
Basel, January 19, 2005

Corporate Governance

Commitment to Corporate Governance

Applicable Standards

Novartis is fully committed to good corporate governance. The following standards apply to us:

- The Directive on Information Relating to Corporate Governance issued by the SWX Swiss Exchange, which entered into force on July 1, 2002;
- The Swiss Code of Best Practices for Corporate Governance;
- The securities laws of the United States of America as the same apply to foreign issuers of securities listed on major US stock exchanges; and
- The Rules of the New York Stock Exchange (NYSE).

We fully comply with each of these standards except that, as permitted under US law and the rules of the NYSE, Novartis continues to apply Swiss (home country) practices in these areas:

- Swiss law requires that the external auditors of Novartis be appointed by the shareholders at the General Assembly and not by the Audit and Compliance Committee, as required in the US.
- Equity compensation plans are not approved at the General Assembly but are promulgated by the compensation committee, or the management committee of the local Novartis Group company. All such plans are established within the policies and programs approved by the Compensation Committee of the Board of Directors of Novartis AG.
- In accordance with Swiss law, Board Committees do not report to the shareholders directly (we issue no proxy statement reports) but submit all their reports to the Board of Directors.

We have incorporated the above standards and the principles of corporate governance under the Swiss Code of Obligations into our Articles of Incorporation, the Regulations of the Board and the Charters of the Board Committees. The Board's Corporate Governance Committee reviews these standards and principles regularly in the light of prevailing best practices and forwards suggestions for improvement to the full Board for approval.

Copies of the aforementioned regulations and references to further information relating to Corporate Governance can be ordered in print from Novartis AG, attn. Corporate Secretary, Ingrid Duplain, J.D., CH-4056 Basel, Switzerland. Further information on Corporate Governance can be found on page 109 of this Annual Report or by visiting:

http://www.novartis.com/investors/en/governance.

Group Structure

Novartis AG, a holding company organized under Swiss law, owns directly or indirectly all companies worldwide belonging to the Novartis Group.

Novartis AG shares are listed on Virt-X (Valor No. 001200526, ISIN CH0012005267, symbol: NOVN.VX) and on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADS) (Valor No. 567514, ISIN US66987V1098, symbol: NVS).

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The Novartis Group is divided operationally into two divisions: Pharmaceuticals and Consumer Health. The Pharmaceuticals Division is organized into two marketing segments Primary Care and Specialty Medicines that are comprised of Business Units responsible for the marketing and sales of pharmaceutical products. These Business Units have common long-term economic perspectives, common customers, common research and development activities, production and distribution practices, and a common regulatory environment. As a result, their financial data is not required to be separately disclosed.

The six Business Units of the Consumer Health Division are: Sandoz, Over-the-Counter self-medication (OTC), Animal Health, Medical Nutrition, Infant & Baby and CIBA Vision.

The business operations of the Business Units are conducted through local Novartis Group companies. The most important Novartis subsidiaries and associated companies are listed in Note 31 to the Group's consolidated financial statements.

There are three Novartis affiliated companies whose shares are traded on public stock exchanges. These are:

Novartis owns directly and indirectly 57.0% of Idenix Pharmaceuticals, Inc. (a US company). The shares of Idenix Pharmaceuticals are listed for trading on the NASDAQ (Valor No. 1630029, ISIN US45166R2040, symbol: IDIX);

Novartis India Limited; 49% of the shares of Novartis India Limited are registered for trading;

Novartis owns directly and indirectly 53.99% of Pharma- Farm S.A. (a Romanian company). The voting shares of PharmaFarm S.A. are listed on the Romanian stock exchange. This participation is expected to be divested in 2005.

Idenix Pharmaceuticals, Inc., Novartis India Limited and PharmaFarm S.A. are directly or indirectly majority owned by Novartis AG.

Additionally, Novartis holds significant investments in two large publicly listed companies:

Novartis directly or indirectly holds 33.3% of the bearer shares of Roche Holding AG, registered in Basel, Switzerland, and listed on the SWX Swiss Exchange (bearer shares: Valor No. 1203211, ISIN CH0012032113, symbol RO; nonvoting equity securities: Valor No. 1203204, ISIN CH0012032048, symbol: ROG; further securities of Roche Holding AG are ADSs for nonvoting equity securities which are traded on the over-the-counter market in the US, symbol: RHHBY). The market value of the Novartis interest in Roche Holding AG on December 31, 2004 was USD 7.1 billion; and

Novartis holds directly and indirectly 42.5% of the shares of Chiron Corporation, with its registered head office in Emeryville, California, and listed on the NASDAQ (Valor No. 918297, ISIN US1700401094, symbol: CHIR). The market value of the Novartis interest in Chiron Corporation on December 31, 2004 was USD 2.6 billion.

Further information on these participations and the method of consolidation is given in Note 10 to the Novartis Group's consolidated financial statement. Both Roche and Chiron are independently governed, managed and operated and not under the control of Novartis.

The other significant Group subsidiaries and associated companies, shown in Note 10 to the Novartis Group's financial statements, are not publicly traded.

Significant Shareholders

The largest registered shareholders of Novartis AG are:

- The Novartis Foundation for Employee Participation, registered in Basel, Switzerland (holding 3.1% of the share capital); and
- Emasan AG, registered in Basel, Switzerland (holding 3.2%).

In addition:

- Nortrust Nominee, London, holds 2.3% and JPMorgan Chase Bank, New York, holds 7.6% of the registered shares as nominee.
- JPMorgan Chase Bank, the depositary for the shares represented by American Depositary Shares may be registered with up to 8% of the share capital.

No other shareholder is registered as owner of more than 2% of the issued share capital and there are no cross-holdings equal to or higher than this amount.

Novartis AG has not concluded any shareholders' agreement or other agreement regarding the voting or holding of its shares.

Capital Structure, Shares

The share capital of Novartis AG is CHF 1 388 605,000, fully paid-in and divided into 2 777 210 000 registered shares of CHF 0.50 nominal value each. Novartis AG has neither authorized nor conditional capital. There are no preferential voting shares. All shares have equal voting rights. Novartis has not issued participation certificates, nonvoting equity securities (Genussscheine) or profit-sharing certificates.

Changes in Capital, Share Repurchase Programs

Since the merger creating Novartis in December 1996, we have implemented four share repurchase programs. Three programs have been completed, with a total of CHF 12 billion having been committed. Shares repurchased in the 2nd and 3rd programs were cancelled and the capital of Novartis AG was correspondingly reduced by shareholder resolution in the Assemblies held in 2002, 2003 and 2004 (see chart below).

In August 2004, we announced the completion of the 3rd share repurchase program and the start of a 4th program to repurchase shares via a second trading line in the SWX Swiss Exchange. In 2004, a total of 22.8 million shares were repurchased for USD 1 billion to complete the 3rd repurchase program. Since the start of the 4th program, a total of 15.2 million shares has been repurchased for USD 0.7 billion. Overall in 2004, a total of 41 million shares was repurchased for USD 1.9 billion, which includes shares bought through the repurchase programs, and additional shares bought on the first trading line. It is anticipated that shareholders will be requested at the next General Meeting to approve the retirement of the shares bought through the repurchase programs.

Repurchase Programs

	year announced	maximum value of program in CHF	number of shares acquired
1st Program	1999	4 bn	65 671 680
2nd Program	2001	4 bn	61 054 680
3rd Program	2002	4 bn	69 779 000
4th Program	2004	3 bn	15 200 000

Capital Reductions

	year of reduction	number of shares cancelled	amount of capital reduced in CHF
	2002	61 054 680	30 527 340
	2003	22 680 000	11 340 000
	2004	24 260 000	12 130 000

Further information on the development of the share capital structure of Novartis AG during the last three years is presented in tabular form in Note 5 to the financial statements of Novartis AG.

Convertible Bonds and Options

Novartis had no convertible bonds outstanding in 2004.

Information about Novartis share options granted as a component of executive and employee compensation is set forth below in this section under the heading "Compensation" and further information can be found in Note 26 to the Group's consolidated financial statements.

Shareholders' Rights

Each registered share entitles the holder to one vote at the General Assembly. Shareholders also have the right to receive dividends, appoint a proxy, convene a General Assembly, place items on the agenda of a General Assembly and hold such other rights as defined in the Swiss Code of Obligations. One or more shareholders, whose combined shareholdings represent an aggregate nominal value of at least CHF 1 000 000, may demand that an item be included in the agenda of a General Assembly. Demands must be made in writing at the latest 45 days before the date of the Assembly; specify the item to be included in the agenda; and contain the proposal for which the shareholder requests a vote.

Registration as Shareholder

There are no restrictions regarding the transferability of Novartis shares. However, only those persons having their shares registered in the Novartis share register may exercise their voting rights. Pursuant to Swiss law, a person who wishes to register shares must make a declaration to the Shareholder Registry that the shares have been acquired in his/her own name and for his/her own account.

Each share carries one vote. However, the Articles of Incorporation provide that no shareholder shall be registered to vote for shares comprising more than 2% of the issued share capital unless the Board of Directors has granted, upon request, an exemption. Exemptions are in force for the two largest shareholders reported above (Novartis Foundation for Employee Participation and Emasan AG). In 2004 no other exemptions were requested.

The statutory voting restrictions can be cancelled with a two-thirds majority of the shares represented at the General Assembly.

Nominees may not vote shares absent registration with the Share Registry and, with registration, may only vote shares constituting less than or equal to 0.5% of the issued share capital. The Board of Directors may register nominees with the right to vote in excess of that limit if the nominees disclose such particulars of the beneficial owners of the shares as the Board shall require. Such agreements are in force with Nortrust Nominee and JPMorgan Chase Bank. Groupings formed to circumvent this limitation are treated as one single person or nominee.

Holders of American Depositary Shares (ADS) may vote by instructing JPMorgan Chase Bank to exercise the voting rights. JPMorgan Chase Bank as depositary may exercise the voting rights for deposited shares represented by ADS at its discretion to the extent the holders of the ADS have not given instructions for the voting.

Resolutions and Elections at General Assembly

Shareholders registered at least 10 days prior to the General Assembly may vote their shares at the meeting.

Resolutions of the shareholders at a General Assembly are approved with a simple majority of the shares represented at the meeting, except in the following matters which by law (Swiss Code of Obligations, Art. 704) and our Articles of Incorporation require the approval of two-thirds of all represented shares:

Alteration of the purpose of Novartis AG;

Creation of shares with increased voting powers;

Implementation or removal of restrictions regarding the transferability of shares;

Authorized or conditional increase of the share capital;

Increase of the share capital from equity or a contribution in kind, for the purpose of an acquisition of property and the grant of special rights;

Restriction or suspension of rights of option to subscribe;

Change in location of the registered office of Novartis AG; and

Dissolution of Novartis AG without liquidation.

The Board of Directors

Members of the Board of Directors

	Age	Director Since	Term Expires
Dr. h.c. Daniel Vasella, M.D.	51	1996	2007
Helmut Sihler, J.D., Ph.D.	74	1996	2007
Hans-Joerg Rudloff	64	1996	2007
Dr. h.c. Birgit Breuel	67	1996	2005
Peter Burckhardt, M.D.	66	1996	2005
Srikant Datar, Ph.D.	51	2003	2006
William W. George	62	1999	2006
Alexandre F. Jetzer	63	1996	2005
Pierre Landolt	57	1996	2005
Ulrich Lehner, Ph.D.	58	2002	2005
Dr.-Ing. Wendelin Wiedeking	52	2003	2006
Rolf M. Zinkernagel, M.D.	60	1999	2006

Further biographical information can be found on pages 98 103.

Director Independence

The Board of Directors has promulgated independence criteria for its members. These criteria are appended to the Regulations of the Board and can be found on the Internet at http://www.novartis.com/investors/en/governance. Pursuant to these criteria, the Board has determined that all of its members, save for Dr. Vasella, Mr. Jetzer and Prof. Datar, are independent and have no material dealings with Novartis AG or other companies of the Novartis Group outside their role as a Director.

Dr. Vasella is the only Executive Director. Mr. Jetzer was a member of the Executive Committee until 1999 and continues to support the Government Relations activities of the Group under a consultancy agreement. Prof. Datar rendered professional services to the Group prior to his election to the Board in 2003 and, pursuant to NYSE Rules effective as of November 2004 providing a three-year look-back period on compensation other than Board fees paid by an issuer to its directors, is not considered independent. In 2002, Novartis made a gift to Harvard Business School of USD 5 million. This amount established and endowed a professorship in the name of Novartis at Harvard Business School. The Board of Directors concluded that this endowment, which under the rules of the New York Stock Exchange must be reported does not have any influence on the independence of Mr. William W. George, who became a member of the faculty of Harvard Business School in 2004. Prof. Zinkernagel has been delegated to the Scientific Advisory Board of the the Novartis Institute for Tropical Diseases (NITD). He is also a delegate to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

No Director is a member of a board of directors of a listed company with which any Novartis Group company conducts a material amount of business.

Term of Office

The specific term of office for a Director is determined by the shareholders at a General Assembly on the occasion of his or her election. The average tenure of our Directors is seven years and their average age is 62 years. In principle, a Director is to retire after 12 years of service or the reaching of 70 years of age. The shareholders may grant an exemption from this rule and reelect a member of the Board of Directors for further terms of office of no more than three years at a time.

Chairman and CEO, Vice Chairmen, Lead Director

Dr. Vasella has been elected by the Board as its Chairman and also to serve as Chief Executive Officer of the Group. It is the view of the Board that this dual role ensures effective leadership and excellent communication between the shareholders, the Board and Management. The Board has appointed Prof. Sihler and Mr. Rudloff as its Vice Chairmen.

The Board has appointed Prof. Sihler as Lead Director, whose responsibility it is to ensure an orderly process in evaluating the performance of the Chairman and CEO, and to chair the Board's private sessions (i.e., the meetings of the Non-Executive Directors). In case of a crisis, the Lead Director would assume leadership of the Independent Directors. Prof. Sihler is a member of all of the Committees of the Board.

Role and Functioning of the Board

The Board holds the ultimate decision-making authority of Novartis AG for all matters except those reserved by law to the shareholders.

The agenda for Board meetings is set by the Chairman. Any Board Member may request that an item be included on the agenda. Board Members are provided, in advance of Board meetings, with adequate materials to prepare for the items on the agenda. Decisions are taken by the Board as a whole, with the support of its four Committees described below (Chairman's Committee, Compensation Committee, Audit and Compliance Committee and Corporate Governance Committee).

The primary functions of the Board are:

- Provide the strategic direction of Novartis;
- Determination of the organizational structure and the manner of governance of the company;
- Overall supervision of the business operations;
- Approval of major acquisitions or divestments;
- Structuring the accounting system, setting financial targets and financial planning;
- Appointing and dismissing members of the Executive Committee and other key executives;
- Promulgation of fundamental corporate policies, in particular on financial matters, corporate governance and citizenship, personnel or environmental matters; and overseeing compliance therewith;
- Preparation of the matters to be presented at the General Meeting, including the Novartis AG financial statements and the Group's consolidated financial statements.

The Board has not concluded any contracts with third parties for the management of the Company but has delegated to the Executive Committee the coordination of day-to-day business operations of Group companies. The Executive Committee is headed by the Chief Executive Officer. The internal organizational structure and the definition of the areas of responsibility of the Board and the Executive Committee are set forth in the Board Regulations.

The Board recognizes the importance of being fully informed on material matters involving the Group and ensures that it has sufficient information to make appropriate decisions through several means:

- By invitation, members of management attend Board meetings to report on areas of the business within their responsibility;

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Board Committees, in particular the Audit and Compliance Committee, regularly meet with management and outside consultants, including the Group's external auditors, to review the business, better understand all laws and policies impacting the Group and support the management in meeting the requirements and expectations of stakeholders;

Informal teleconferences between Directors and the Chairman and CEO, or the Lead Director, as well as regular distribution of important information to the Directors.

Once yearly, the Board reviews the performance of the Chairman and CEO and approves his business objectives for the following year. The Board of Directors also performs a self-evaluation once a year.

During 2004, the Board met 11 times (including one training session). Detailed information on each Director's attendance at full Board and Board Committee meetings is provided in the following table.

Attendance

Detailed information on attendance at full Board and Board Committee meetings is as follows:

	Full Board	Chairman's Committee	Compensation Committee	Audit and Compliance Committee	Corporate Governance Committee
Number of meetings in 2004	11	9	5	8	2
Dr. h.c. Daniel Vasella, M.D.	11[1]	9[1]			
Helmut Sihler, J.D., Ph.D.	11	9	5[1]	8[1]	2
Hans-Joerg Rudloff	10	9	5	4[3]	2
Dr. h.c. Birgit Breuel	10			8	
Peter Burckhardt, M.D.	11				
Srikant Datar, Ph.D.	11				
Walter G. Frehner[2]	3			3	
William W. George	11	9	5		2[1]
Alexandre F. Jetzer	11				
Pierre Landolt	10				
Ulrich Lehner, Ph.D.	9	4[3]		8	
Heini Lippuner[2]	3	3			
Dr.-Ing. Wendelin Wiedeking	7				
Rolf M. Zinkernagel, M.D.	11				2

(1) Chair.

(2) Retired as of February 24, 2004.

(3) From February 24, 2004.

Role and Functioning of the Board Committees

Each Board Committee has a written Charter outlining its duties and responsibilities and a chair elected by the Board. The Board Committees meet regularly and consider meeting agendas determined by the Chair. Board Committee members are provided, in advance of meetings, with adequate materials to prepare for the items on the agenda.

The Chairman's Committee: The Chairman's Committee consists of the Chairman and Chief Executive Officer, the two Vice Chairmen, one of whom is the Lead Director, and such other members as are elected by the Board from time to time. The Chairman's Committee reviews selected matters falling within the authority of the Board before the latter takes decisions on such matters and, in urgent cases, can take preliminary and necessary actions on behalf of the Board. The Chairman's Committee also interfaces with the Executive Committee, specifically deciding on financial investments and other matters delegated to the Committee by the Board of Directors.

The Compensation Committee: The Compensation Committee is composed of three independent Directors. The Compensation Committee reviews the compensation policies and programs of the Group, including share option programs and other incentive-based compensation, before the full Board makes final decisions. It is responsible for reviewing and approving the compensation paid to members of the Executive Committee and other selected key executives, and for reviewing the performance of the Chairman and Chief Executive Officer. The Compensation Committee seeks outside expert advice from time to time to support its decisions and recommendations.

The Audit and Compliance Committee: The Audit and Compliance Committee is composed of four members. The Board has determined that all the members of the Committee are independent, as defined by the rules of the New York Stock Exchange as well as by the independence criteria of Novartis, and that its Chair, Prof. Sihler, is adequately qualified in financial management matters. The Audit and Compliance Committee has determined that Prof. Lehner, possesses the required accounting and financial management expertise required under the rules of the NYSE. Therefore the Board of Directors has appointed him as the Audit and Compliance Committee's Financial Expert. The Board has also reassured itself that other members of the Committee have sufficient experience and ability in finance and matters of compliance to enable them to adequately discharge their responsibilities.

The Committee's main duties are:

Evaluate and select the external auditors to be nominated for election at the Annual General Assembly;

Review the terms of engagement of the external auditors and the scope of the external audit;

Discuss with the external auditors the results of their audits;

Review the scope of internal auditing and the adequacy of the organizational structure and qualifications of the internal auditing staff;

Review with external auditors, internal auditors and the financial and accounting management of Novartis whether the accounting policies and financial controls are appropriate, adequate and effective;

Meet with management and the external auditors to review the financial statements and Annual Report;

Review internal control processes and procedures, including those for the management of business risk;

Review all relationships between Group companies and external auditors;

Review the processes and procedures for ensuring compliance with laws and internal regulations (such as the Novartis Code of Conduct);

Oversee Novartis' commitments as a subscriber to the UN's Global Compact initiative.

The Corporate Governance Committee: The Corporate Governance Committee is composed of four independent Directors. The Corporate Governance Committee develops corporate governance principles and recommends these to the Board for approval. Its duties include the regular review of the Articles of Incorporation with a view to reinforcing shareholder rights, and of the composition and size of the Board and its committees. The Corporate Governance Committee conducts an annual evaluation of the Board as a whole and gives guidance to the Directors on how to avoid potential conflicts of interest.

Meetings of the Non-Executive Directors: The non-executive independent directors held 2 private sessions chaired by the Lead Director, Prof. Sihler.

Change of Control and Defense Measures

The Swiss Stock Exchange Act provides that whoever acquires more than 33 1/3% of the equity securities of a company shall be required to make a bid for all listed equity securities of that company. In its articles of association a company may increase this threshold to 49% (opting up) or, under certain circumstances, waive the threshold (opting out). Novartis has not adopted any such measures in deviation from the rules applicable to it under the Swiss Stock Exchange Act.

The employment agreements with four members of senior Management contain change-of-control provisions whereby their normal contractual severance of 36 months is extended by 24 months during the 12 months following a change of control as defined in those agreements. One executive has a provision whereby the normal contractual severance of 12 months is extended by 12 months during the 12 months following a change of control.

Documentation

The following documents describe the Corporate Governance standards applied by Novartis:

Articles of Incorporation;

Regulations of the Board and Committee Charters, including the independence criteria for Board and Audit and Compliance Committee members.

These documents can be ordered from the Corporate Secretary Ingrid Duplain, J.D., CH-4056 Basel. They also are available on the Novartis website:

http://www.novartis.com/investors/en/governance.shtml.

Compensation

Non-Executive Directors' Compensation

The Compensation Committee advises the Board of Directors on the compensation of Non-Executive Directors. Non- Executive Directors receive an annual retainer in an amount that varies with the Board and Committee responsibilities of the Director. Directors receive no additional fees for attending meetings or acting as committee chairs. Directors can choose to receive the annual retainer in cash, shares, or a combination thereof. As of January 1, 2003, we no longer offer share options to Directors, or grant shares to Directors in acknowledgement of business performance. Directors are reimbursed for travel and other necessary business expenses incurred in the performance of their services.

2004 Directors' Compensation

	Annual Cash Compensation (CHF)	Shares (number)
Dr. h.c. Daniel Vasella, M.D.		
Chairman		
Chairman's Committee (Chair)	(please refer to the table on page 90)	
Helmut Sihler, J.D., Ph.D.		
Vice Chairman, Lead Director		
Chairman's Committee (Member)		
Compensation Committee (Chair)		
Audit and Compliance Committee (Chair)		
Corporate Governance Committee (Member)	979 463	
Hans-Joerg Rudloff		
Vice Chairman		
Chairman's Committee (Member)		
Compensation Committee (Member)		
Audit and Compliance Committee (Member)[1]		
Corporate Governance Committee (Member)	21 321	11 837
Dr. h.c. Birgit Breuel		
Audit and Compliance Committee (Member)	452 870	
Peter Burckhardt, M.D.	314 554	575
Srikant Datar, Ph.D.	231 000	1 724
William W. George		
Chairman's Committee (Member)		
Compensation Committee (Member)		
Corporate Governance Committee (Chair)	331 250	3 460
Alexandre F. Jetzer[2]	10 927	5 745
Pierre Landolt	106 179	4 222
Ulrich Lehner, Ph.D.		
Chairman's Committee (Member)[1]		
Audit and Compliance Committee (Member)	480 000	
Dr.-Ing. Wendelin Wiedeking	106 127	4 222
Rolf M. Zinkernagel, M.D.[3]		
Corporate Governance Committee (Member)	346 948	5 484
Total	**3 380 696**	**37 269**

(1) Since February 24, 2004.

(2) In addition he was paid CHF 120 000 for other consulting services.

(3) Includes CHF 250 000 for acting as the Board's delegate in the scientific advisory boards of the Genomics Institute of the Novartis Research Foundation (GNF) and the Novartis Institute for Tropical Diseases (NITD).

In 2004, Walter G. Frehner and Heini Lippuner retired from their positions as Directors. No payments have been made to them in 2004.

Ownership of Novartis Shares and Share Options by the Non-Executive Directors

In December 2003 the Board of Directors adopted a share ownership guideline, under which Non-Executive Directors are required to own at least 5 000 Novartis shares within three years after joining the Board. The total number of Novartis shares owned as of December 31, 2004, by the Non-Executive Directors and persons closely linked to them was 383 420. "Persons closely linked to them" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, or (iv) any legal or natural person who is acting as their fiduciary.

No Non-Executive Director owned 1% or more of our outstanding shares. As of December 31, 2004, the individual ownership of Novartis shares by the Non-Executive Directors (including persons closely linked to them) was as follows:

Beneficial Owner	Number of Shares Owned Directly or Indirectly
Dr. h.c. Daniel Vasella, M.D.	(please refer to the table on page 90)
Helmut Sihler, J.D., Ph.D.	34 304
Hans-Joerg Rudloff	109 731
Dr. h.c. Birgit Breuel	5 000
Peter Burckhardt, M.D.	15 604
Srikant Datar, Ph.D.	5 026
William W. George	112 249
Alexandre F. Jetzer	60 621
Pierre Landolt	9 387
Ulrich Lehner, Ph.D.	5 120
Dr.-Ing. Wendelin Wiedeking	7 756
Rolf M. Zinkernagel, M.D.	18 622
Total	383 420

As of the same date, the Non-Executive Directors held a total of 293 683 Novartis share options. The number of share options granted and exercise prices have been adjusted to reflect the share split of 1:40 in 2001. Broken down by grant year, the number of options held for the last 5 years are:

Grant Year	Options Held (number)	Conversion Rate	Exercise Price (CHF)	Term Life (years)
2002	96 363	1:1	62.0	9
2001	68 280	1:1	70.0	9
	10 000	1:1	62.6	10
2000	81 840	1:1	51.3	9

Compensation for Former Directors and Executives

In 2004, a total amount of USD 102 000 was paid to two former members of the Board and USD 2 541 000 to five former Executives.

Executive Compensation Policy

Novartis' compensation programs are designed to attract, retain and motivate the high-caliber executives, managers and associates who are critical to the success of the Group. Globalization of labor markets for specialists and executives has led to a rapid convergence between US and European principles of compensation and a strong focus on long-term, equity-based forms of programs. Overall, the intention of these programs is to provide compensation opportunities that:

Are comparable to those provided by a selected group of industry-specific competitors;

Support a performance-oriented culture that allows high performers to achieve superior rewards; and

Align executives, management and associates to create sustainable shareholder value.

Total individual compensation at target performance level is aimed at the median of comparable companies of the industries in which we are present. Annual cash and equity incentive awards are based on both overall Group or affiliate company and individual performance. Long-term incentive awards include share options and other forms of equity participation. Executive compensation programs strongly encourage significant levels of share ownership and put a high portion of total compensation at risk, subject to individual and company performance and the appreciation of Novartis shareholder value. In addition, to further strengthen the Company's ownership philosophy, the Board of Directors established in 2003 share ownership guidelines under which designated executives are required to own a multiple of their base salary in Novartis shares.

Compensation Program Descriptions

The total compensation package for each executive consists of the three basic components discussed in more detail below. Target salary and incentive levels are aimed at the median of the peer group, based on available public data and the analysis of external compensation advisors. Actual compensation levels of individuals may in some instances surpass the median of the market, reflecting superior results. The Compensation Committee believes that this position is consistent with the performance of the Group and its evaluation of the external market.

Salaries: The 2004 salaries of the Executive Committee members are shown in the "Salary" column of the 2004 Summary Compensation Table on page 90.

Annual Incentive Awards: Under the terms of the Novartis Annual Incentive Plan, awards are made each year based on the achievement of predetermined Group and individual performance objectives. Below a certain performance threshold, no awards may be granted under the plan.

Long-Term Incentive Compensation: Long-term incentive compensation, in the form of share options, shares contingent on performance, and restricted shares, comprises a major portion of the total compensation package for executives. In any given year, an executive may be offered share options, performance-contingent shares, and/or restricted shares. Long-term incentives are aimed at the median of the competitive market, with above-average and superior performance resulting in long-term compensation above the targeted amounts. Below a threshold level of performance, no awards may be granted under the plan. Share options are also granted to selected employees.

Share Options

In 2004, the Board of Directors adopted a modification to the Share Option Plans described below. Under the plan called "Select," participants have the choice to receive their share option award in the form of share options, or restricted shares or in equal parts in share options and restricted shares. An exchange ratio of share options to shares is set by the Board. For 2004, four share options could be exchanged for one share. Shares granted have a restriction period identical to the vesting period of the share options.

(a) Novartis Share Option Plan

Under the Novartis Share Option Plan, Directors (through 2002), executives and other selected employees of Group companies (collectively, the "Participants") may be granted options on Novartis shares. These options are granted both in recognition of past performance and as an incentive for future contributions by the Participants. They allow the Participants to benefit as the price of the shares increases over time, and so provide a long-term incentive for improvements in our profitability and success. The share options are tradable; therefore they can be used to purchase the underlying Novartis share or they can be sold. If a Participant voluntarily leaves Novartis, share options not yet vested generally forfeit. In 2004, the vesting period for the Novartis Share Option Plan was changed from a two-year vesting period to a three-year vesting period for most countries. Due to pending tax legislation in Switzerland, it was decided not to implement the three-year vesting period in Switzerland. The current view is that the new law will come into force in 2006/2007, at which point the vesting period might be reviewed. The share options under the Novartis Share Option Plan have a term of ten years and an exchange ratio of 1:1.

(b) Novartis US ADS Incentive Plan for US-based employees

Introduced in 2001, the Novartis US American Depositary Shares (ADS) Incentive Plan grants share options to US based Directors (through 2002), officers and other selected employees, thus replacing a Share Appreciation Rights Plan. The terms and conditions of the US ADS plan are substantially equivalent to the Novartis Share Option Plan. As of 2004, share options granted under the plan are tradable share options on ADS.

Share Plans: We offer to nominated executives a Long- Term Performance Plan, a Leveraged Share Savings Plan and a Restricted Share Plan. These plans are designed to foster long-term commitment of eligible employees by aligning their incentives with our performance.

(a) Long-Term Performance Plan

Under the Long-Term Performance Plan, participants are awarded the right to earn Novartis shares. Actual payouts, if any, are determined with the help of a formula which measures, among other things, our performance using economic value added relative to predetermined strategic plan targets. Additional functional objectives may be considered in the evaluation of performance. If performance is below the threshold level of the predetermined targets, then no shares will be earned. To the extent the performance exceeds the threshold performance level, participants are eligible to receive an increasing amount of Novartis shares, up to the maximum cap. Payout of shares is conditioned on the participant remaining in the employ of a Novartis affiliate at the time of payout.

(b) Leveraged Share Savings Plan

There are two separate Leveraged Share Savings Plans. Under the first plan, participating executives can choose to receive part or all of their Annual Incentive Award in shares. Shares awarded under this plan are blocked for five years after the grant date. After expiration of the blocking period, the respective shares are matched with an equal number of shares. Under the second plan, employees with a Swiss contract can choose to receive all or part of their annual incentive payout in Novartis shares. After the expiration of a blocking period of three years, the award is matched with half a share for each share held. Generally, no matching shares will be granted if an employee voluntarily leaves Novartis prior to expiration of the blocking period.

(c) Restricted Share Plan

Under the Restricted Share Plan, employees may be granted restricted share awards either as a result of a general grant or as a result of an award based on having met certain performance criteria. Shares granted under this Plan generally have a five-year vesting period. If a participant voluntarily leaves Novartis, unvested shares generally forfeit.

Employee Benefits: Employee benefits offered to executives are designed to be competitive and to provide a safety net against the financial catastrophes that can result from disability or death, and to provide a reasonable level of retirement income based on years of service with Novartis.

Evaluation of the Executive Committee Members' Performance

The Compensation Committee and the Board of Directors meet without the Chairman and CEO to evaluate his performance, and with the Chairman and CEO to evaluate the performance of other Executive Committee members. The bonuses and long-term incentives for 2003 and the base salaries for 2004 were discussed and approved at the meetings of the Compensation Committee held in January 2004. The decisions on compensation of Executive Committee members were mainly based on individual performance evaluations whereby market conditions were taken into consideration. Similar to 2003, the Compensation Committee considered management's achievement of short- and long-term goals, including revenue growth, economic value creation (operating and net income, earnings per share and economic value added) and ongoing efforts to optimize organizational effectiveness and productivity. The Compensation Committee also takes into consideration management's responses to the changes in the global marketplace and the strategic position of the Group. The performance measures were weighted subjectively by each member of the Compensation Committee.

Summary

The Compensation Committee believes that the compensation practices and compensation philosophy of Novartis align executive and shareholder interests. Ongoing adaptation of the programs and practices further allowed the Company to attract, retain and motivate the key talent Novartis needs to continue to compete and provide a strong return to shareholders.

Executive Compensation

In 2004, there were 20 Executive Committee members, Permanent Attendees to the Executive Committee and Business Unit Heads ("Executives"), including those who retired or terminated their employment in 2004. In total, the Executives received USD 11 104 000 in salaries and USD 3 786 000 in cash bonuses. The number of share options granted was 1 649 650 and the number of shares granted was 833 883. An additional USD 1 366 000 was set aside for their pension, retirement and other benefits. Compensation represents all payments made in 2004; however, cash bonuses and long-term compensation are based on 2003 business performance. The following summary compensation table provides details on the 2004 compensation of the Executive Committee members in their respective currencies.

2004 Summary Compensation Table

		Annual Compensation		Long-Term Compensation				
Name and Principal Position	**Currency**	**Salary**	**Cash Bonus**	**Restricted Share Awards (number)[1]**	**Unrestricted Share Awards (number)[2]**	**Share Options (number)[3]**	**All Other Compensation[4]**	**Tota1[5]**
Dr. h.c. Daniel Vasella, M.D. Chairman & CEO	CHF	3 000 000		237 891	104 439	533 808	172 649	20 786 304
Urs Baerlocher, J.D. Head of Legal & General Affairs	CHF	791 667		14 035	9 792	114 769	154 750	2 566 951
Raymund Breu, Ph.D. Chief Financial Officer	CHF	991 667		19 844	12 403	324 556	158 590	4 605 912
Paul Choffat, J.D. Head of Consumer Health	CHF	791 667	577 500	4 309	9 792	176 157	160 440	3 591 274
Thomas Ebeling Head of Pharmaceuticals	CHF	1 000 000	1 200 000	66 219	15 666	213 524	623 990	8 614 693
Mark C. Fishman, M.D. Head of Biomedical Research	USD	850 000	12 425	42 717	13 446	112 932	114 504	4 850 491

(1) The Restricted Share Awards include shares granted under the Leveraged Share Savings Plan, shares granted under the "Select" plan and other restricted share grants.

(2) The Unrestricted Share Awards include shares granted under the Long-Term Performance Plan.

(3) The share options granted provide the right to purchase one share per option. Share options granted under the Novartis Share Option Plan have a closing price at grant and an exercise price of CHF 57.45 per share. The options have a cliff-vesting period of two years after the date of grant and will expire on February 3, 2014. The tradable share options have a tax value of CHF 7.46 per option, calculated based on the Black-Scholes Method. Share options granted under the US ADS Incentive Plan have a closing price at grant and an exercise price of USD 46.09 per share. The options have a cliff-vesting period of three years after the date of grant and will expire on February 3, 2014. The tradable share options have a value of USD 11.29 per option, calculated based on the Black-Scholes

Method.

(4) Amounts include, among others, payments made by Novartis to the Management Pension Fund, a defined-contribution plan.

(5) The total compensation amounts have been calculated using the taxable value or Black-Scholes value of the shares and share options granted.

Distribution of Share Options Granted to Employees

Under the Novartis Share Option Plan and the Novartis US ADS Incentive Plan described above, a total number of 14.1 million share options and 2 232 037 shares were granted to 7 626 participants in 2004. Under these plans, 12% of the share options were granted to the Executives.

As of December 31, 2004, a total number of 62.7 million share options was outstanding, providing the right to an equal number of shares, which corresponds to 2.3% of the nominal outstanding share capital of Novartis AG.

Ownership of Novartis Shares and Share Options by the Executives

As of December 31, 2004, the total number of Novartis shares owned by the Executives and persons closely linked to them was 1 685 807. "Persons closely linked to them" are (i) their spouse, (ii) their children below the age of 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary. No Executive owned 1% or more of our outstanding shares. As of December 31, 2004, the individual ownership of Novartis shares of the Executive Committee members (including persons closely linked to them) was as follows:

Beneficial Owner	**Number of Shares Owned Directly or Indirectly**
Dr. h.c. Daniel Vasella, M.D.	745 899
Urs Baerlocher, J.D.	154 123
Raymund Breu, Ph.D.	221 743
Paul Choffat, J.D.	21 760
Thomas Ebeling	112 391
Mark C. Fishman, M.D.	48 462
Total	**1 304 378**

The 19 Executives in office as of December 31, 2004, held a total of 6 564 624 Novartis share options. The number of share options and exercise price were adjusted to reflect the share split of 1:40 in 2001. Broken down by grant year since 2000, the numbers of share options held are:

Grant Year	Options Held (number)[1]	Conversion Rate	Exercise Price (CHF)	Term Life (years)
2004	1 649 650	1:1	57.45	10
2003	3 203 537	1:1	49.00	9
2002	1 634 097	1:1	62.00	9
2001	62 740	1:1	70.00	9
2000	4 600	1:1	51.33	9

(1) The number of share options held includes share options granted under the Novartis Share Option Plan and the US ADS Incentive Plan.

Benefit Plans

Swiss Employee Benefit Plans

(a) Swiss Pension Fund

The Swiss Pension Fund is a defined-benefit fund that provides retirement benefits and risk insurance (covering death or disability). The Swiss Pension Fund is funded by contributions from Group companies and the insured employees. The Swiss Pension Fund insures remuneration up to a maximum of CHF 220 000 per year. The maximum retirement pension is 60% of the insured remuneration after 40 years of contribution. The table shows the annual pension benefit by base salary and years of service. In 2004 Novartis contributed CHF 18 700 to the Pension Fund in respect of each of the Swiss-based Executive Committee members.

(b) Swiss Management Pension Fund

The Swiss Management Pension Fund is basically a defined-contribution plan and provides retirement benefits and risk insurance (covering death or disability) for components of remuneration not covered by the Swiss Pension Fund. Swiss law provides certain minimum requirements, e.g. return on employee contributions; however, these requirements do not substantially affect the "defined-contribution-character" of the pension plan. Employees exceeding the maximum insurable remuneration of the Swiss Pension Fund are eligible for the Swiss Management Pension Fund. The benefits under the Swiss Management Pension Fund are granted in addition to those of the Swiss Pension Fund. The Swiss Management Pension Fund is funded through contributions by Novartis and the employee.

Swiss Employee Benefit Plans

	Years of Service					
Base Salary (CHF)	15	20	25	30	35	40
100 000	17 076	22 764	28 464	34 152	39 840	45 528
140 000	26 076	34 764	43 464	52 152	60 840	69 528
180 000	35 076	46 764	58 464	70 152	81 840	93 528

	Years of Service					
220 000	44 076	58 764	73 464	88 152	102 840	117 528
over 220 000	44 076	58 764	73 464	88 152	102 840	117 528

US-Based Employee Pension Plan

The Pension Plan for US-based employees of Novartis Corporation (Pension Plan) is a funded, tax-qualified, non-contributory defined-benefit pension plan that covers certain employees of Novartis Corporation and its United States affiliates, including Dr. Fishman. The Pension Plan provides for different pension formulas, depending on which Novartis company is the employer of a particular employee. The pension formula in which Dr. Fishman participates under the Pension Plan is a pension equity (PEP) formula. Benefits under the PEP formula are based upon an employee's highest average earnings for a five-calendar-year period during the last ten calendar years of service with Novartis and the employee's accumulated PEP credits (expressed as a percentage of final average earnings, and ranging from 2% to 13% for each year of service based on the employee's attained age in a particular year), and are payable after retirement in the form of an annuity or a lump sum. The amount of annual earnings covered by the Pension Plan is generally equal to the employee's base salary and annual bonus. The amount of annual earnings that may be considered in calculating benefits under the Pension Plan is limited by law. For 2004, the annual limitation was USD 205 000. Novartis Corporation and its United States affiliates also maintain various unfunded supplemental pension plans, each of which provides their respective employees with an amount substantially equal to the difference between the amount that would have been payable under the Pension Plan in the absence of legislation limiting pension benefits and the annual earnings that may be considered in calculating pension benefits under tax-qualified pension plans, and the amount actually payable under the Pension Plan.

Personal Loans and Severance Agreements

No loans were granted to the executives during 2004 or were outstanding as of December 31, 2004. During 2004, two executives received USD 798 000 as severance.

Performance Graph

This graph compares our total shareholder returns, the Morgan Stanley World Pharmaceuticals Index (MSWPI), and the Swiss Market Index (SMI). The graph assumes CHF 100 invested in Novartis at the closing price on December 31, 1995 and an equal amount invested in each of the indices.

	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Dec 00	Dec 01	Dec 02	Dec 03	Dec 04
Novartis	100	147	244	281	247	317	269	230	260	270
MSWPI	100	142	221	292	302	380	334	229	237	219
SMI	100	122	197	228	245	268	215	158	191	201

Auditors

Audit and Compliance Committee

Management is responsible for creating the financial statements and managing the reporting process. Further, management is responsible for designing internal controls over financial reporting and assessing and reporting on the effectiveness of those internal controls. The Audit and Compliance Committee (the "ACC") reviews the Group's financial reporting process on behalf of the Board of Directors.

For each quarterly and annual financial release, management's Disclosure Review Committee reviews the release for accuracy and completeness of the release's disclosures. The decisions taken by the Disclosure Review Committee are reviewed with the ACC before publication of the financial release.

The internal audit function, which reports to the Chairman and works closely with the ACC, reviews the effectiveness, efficiency and appropriateness of the internal control systems, particularly regarding the protection of assets, the completeness and accuracy of operational and financial information (with emphasis on internal reporting) and the adherence to Novartis Group guidelines.

The independent auditor, PricewaterhouseCoopers AG (PwC), is responsible for expressing an opinion on the conformity of the audited financial statements with international financial reporting standards and compliance with Swiss law. Additionally, PwC is responsible for expressing an opinion on management's assessment of the effectiveness of internal control over financial reporting and an opinion on the effectiveness of internal control over financial reporting.

The ACC is responsible for overseeing the conduct of these activities by the Group's management and PwC. During 2004, the ACC held 8 meetings. PwC attended all meetings of the ACC and all matters of importance were discussed. PwC also attended one meeting of the Board of Directors of the Group. PwC provided to the ACC the written disclosures required by US Independence Standards Board Standard No. 1 (Communications with Audit Committees), and the ACC and PwC have discussed the auditors' independence from the Group and its management, including the matters in those written disclosures.

Based upon the reviews and discussions with management and the independent auditors referred to above, the ACC recommended to the Board of Directors, and the Board approved, inclusion of the audited financial statements in the Group's Annual Report for the year ended December 31, 2004.

Duration of the Mandate and Terms of Office of the Independent Auditors

The ACC proposed to the Board of Directors the independent auditor for election at the General Assembly. PwC assumed the existing auditing mandate for Novartis in 1996. The head auditors responsible for the mandate, Mr. James Kaiser and Mr. Daniel Suter, began serving in their roles in 2002 and 2003, respectively.

Policy on Pre-Approval of Audit and Non-Audit Services of Independent Auditors

The ACC's policy is to pre-approve all audit and non-audit services provided by PwC. These services may include audit services, audit-related services, tax services and other services, as described below. Pre-approval is detailed as to the particular service or categories of services, and is subject to a specific budget.

PwC and management report to the ACC regarding the extent of services provided in accordance with this pre-approval and the fees for the services performed to date on a quarterly basis. The ACC may also pre-approve additional services on a case-by-case basis.

Independent Auditor Fees

The following fees were charged for professional services rendered by PwC for the 12-month period ended December 31:

	2004	**2003**
	(USD thousands)	
Audit Services	19 561	13 360
Audit-Related Services	4 506	6 323

	2004	2003
Tax Services	941	2 235
Other Services	8	2 742
Total	**25 016**	**24 660**

Audit Services are defined as the standard audit work that needs to be performed each year in order to issue opinions on the consolidated financial statements of the Group, to issue opinions relating to management's assessment of internal controls over financial reporting and the effectiveness of the Group's internal controls over financial reporting, and to issue reports on local statutory financial statements. Also included are services that can only be provided by the Group auditor such as auditing of non-recurring transactions and application of new accounting policies, audits of significant and newly implemented system controls, preissuance reviews of quarterly financial results, consents and comfort letters and any other audit services required for US Securities and Exchange Commission 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, audits of pension and benefit plans, contractual audits of third-party arrangements, assurance services on corporate citizenship reporting, and consultation regarding new accounting pronouncements.

Tax Services represent tax compliance and other services and expatriate and executive tax return services.

Other Services consist primarily of actuarial services for pension and employee benefit plans. As of May 2004, PwC no longer provides certain of these services, as required by the Sarbanes-Oxley Act. The total of audit related, tax and other services was USD 5 455 000 for 2004 and USD 11 300 000 for 2003.

Information Policy

Introduction

Novartis is committed to open and transparent communication with its shareholders, potential investors, financial analysts, customers, suppliers and other interested parties. Novartis ensures that material information pertaining to its businesses is timely and broadly disseminated in a manner that complies with its obligations under the rules of both the Swiss Stock Exchange and the New York Stock Exchange. Novartis voluntarily complies with Regulation FD of the United States Securities & Exchange Commission (SEC). In an effort to help stakeholders better understand the progress of our business, Novartis makes forward-looking statements which reflect its Management's understanding of the Group's situation and performance as of the date of such statements.

Materials

Novartis publishes each year a detailed Annual Report to its shareholders, which provides information on the results of its various businesses. The Annual Report also provides information on developments in the Group's efforts regarding Corporate Citizenship, Health, Safety and Environment and Human Resources. Central to the Annual Report is one section entirely devoted to Corporate Governance and another to the audited financial statements of the reported year. Novartis' financial statements are produced following the International Financial Reporting Standards (IFRS) and a bridging statement to US GAAP is offered. Apart from the Annual Report, Novartis also produces an annual report on Form 20-F, which is filed with the SEC.

Since 2003 Novartis has published its results, on a quarterly basis, in a Form 6F to the SEC. Financial results releases are disseminated in the same manner as press releases. The quarterly results press releases contain unaudited financial statements in accordance with IFRS and US GAAP.

Novartis issues press releases from time to time regarding developments in its various businesses and other activities in which the Group and its Affiliates involve themselves. All releases are disseminated broadly and simultaneously pursuant to the rules and regulations of the Swiss and New York Stock Exchanges. Press releases relating to financial results and material events are also filed with the SEC under Form 6F. An archive containing Annual Reports to Shareholders, annual reports to the SEC on Form 20-F, and quarterly results releases as well as related materials, such as slide presentations and conference call webcasts, can be found on the Novartis Investor Relations website (http://www.novartis.com/investors) and is accessible to anyone, irrespective of whether or not that person is a shareholder. A press release archive is maintained on the Novartis website at:

http://www.novartis.com/news/ en/media.shtml.

Information contained in all reports and releases is deemed correct and accurate at the time of release. Novartis does not update past releases to take into account changes in the marketplace or our businesses.

Investor Relations Program

Novartis runs an Investor Relations program, which includes the following:

- A Full-Year Results presentation;
- Investor Events focusing on the Novartis Pharmaceutical Pipeline;
- Themed events, covering areas of interest such as therapeutic advances in medicine, pharmaceutical research or the generics business (Sandoz);
- One-on-one and group meetings with Investors and Analysts at a Novartis site or during roadshows at major financial centres;
- Conference calls for quarterly results or in conjunction with other press releases;
- Presentations at broker-sponsored industry conferences.

These activities focus on recently announced activities or financial results and are conducted in line with stock exchange disclosure rules and Regulation FD.

Presentations to the financial community are regularly posted in an archive on the Investor Relations website, as audio webcasts and/or pdf documents for slide presentations. These presentations are not regularly updated, but reflect the developments within the company over time.

Novartis Investor Relations is managed out of headquarters in Basel, Switzerland. A team of professionals is located in New York to assist in coordinating responses to inquiries from the US. Their contact details as well as an Investor Relations mailbox are made available on the Novartis Investor Relations website (http://www.novartis.com/investors). Through the Internet there is also an opportunity to sign up for the Investor Relations e-mail distribution system.

Board of Directors

Dr. h.c. Daniel Vasella, M.D.
Chairman and CEO,
Swiss, age 51

Helmut Sihler, J.D., Ph.D.
Vice Chairman and
Lead Director,
Austrian, age 74

Hans-Joerg Rudloff
Vice Chairman,
German, age 64

Dr. h.c. Birgit Breuel
German, age 67

Peter Burckhardt, M.D.
Swiss, age 66

Srikant Datar, Ph.D.
Indian, age 51

William W. George
American, age 62

Alexandre F. Jetzer
Swiss, age 63

Pierre Landolt
Swiss, age 57

Ulrich Lehner, Ph.D.
German, age 58

Dr.-Ing. Wendelin Wiedeking
German, age 52

Rolf M. Zinkernagel, M.D.
Swiss, age 60

Honorary Chairmen

Alex Krauer, Ph.D.
Marc Moret, Ph.D.

Corporate Secretary

Ingrid Duplain, J.D.

Name	Function at Novartis AG	Activities in governing or supervisory bodies	Professional Background	Permanent management or Consultancy engagements
Dr. h.c. Daniel Vasella, M.D. Swiss, age 51	Since 1996 Daniel Vasella has served as President and Chairman of the Group Executive Committee (CEO). In 1999 he additionally was appointed Chairman of the Board of Directors. He is an executive director.	Daniel Vasella is also a member of the Board of Directors of Pepsico, Inc.*, United States. He is a member of the Board of Directors of Associates of Harvard Business School.	Daniel Vasella graduated with an M.D. from the University of Bern in 1979. After holding a number of medical positions in Switzerland, he joined Sandoz Pharmaceuticals Corporation in the US in 1988. From 1993 to 1995, Daniel Vasella advanced from Head of Corporate Marketing and Senior Vice President and Head of Worldwide Development to Chief Operating Officer of Sandoz Pharma Ltd. In 1995 and 1996, Daniel Vasella was a member of the Sandoz Group Executive Committee and Chief Executive Officer of Sandoz Pharma Ltd. In 2002, Dr. Vasella was awarded an honorary doctorate by the University of Basel. He has been honored with the Ordem Nacional do Cruzeiro do Sul (Brazil) and holds the rank of Chevalier in the Ordre National de la Légion d'Honneur (France).	Daniel Vasella is a member of the Chairman's Council of DaimlerChrysler AG, Germany. In addition, he is President of the International Federation of Pharmaceutical Manufacturers Associations, a member of the International Board of Governors of the Peres Center for Peace in Israel and a member of the International Business aders Advisory Council for the Mayor of Shanghai. He also serves as a member of several industry associations and educational institutions.
Helmut Sihler, J.D., Ph.D. Austrian, age 74	Helmut Sihler became Vice Chairman in 1996. He became Lead Director in 1999 and is a member of the Chairman's Committee and the Corporate Governance Committee. He chairs the Audit and Compliance Committee and the Compensation Committee. He qualifies as a Non-Executive, independent Director and the Board has decided that he is adequately qualified in financial matters in accordance with applicable regulations to chair the Audit and Compliance Committee.	Helmut Sihler is Chairman of the Supervisory Board of Dr. Ing. h.c. F. Porsche AG*, Germany.	Helmut Sihler studied philology and law in Graz, Austria and Burlington, Vermont (US) and graduated with a Ph.D. in philology and a J.D. In 1957, he joined Henkel KGaA, Germany, initially holding several positions in the marketing department for consumer goods. From 1980 to 1992, Helmut Sihler was Chairman of the Central Board of Management of Henkel KGaA. In 1988 and 1989, Helmut Sihler was President of the Association of the German Chemical Industry. Helmut Sihler was ad interim CEO of Deutsche Telekom AG, Germany, from July to November 2002.	

* publicly listed company

Name	Function at Novartis AG	Activities in governing or supervisory bodies	Professional Background	Permanent management or Consultancy engagements
Hans-Joerg Rudloff German, age 64	Since 1996 Hans-Joerg Rudloff has served as Vice Chairman. In 1999, he became a member of the Chairman's Committee and the Compensation Committee and since 2002 he has been a member of the Corporate Governance Committee. He qualifies as an independent Non-Executive Director. Since 2004 Hans-Joerg Rudloff has been a member of the Audit and Compliance Committee.	Hans-Joerg Rudloff joined Barclays Capital* in 1998, where he is presently Chairman of the Executive Committee. Hans-Joerg Rudloff also serves on a number of boards of other companies, including the Boards of Directors of the TBG Group (Thyssen-Bornemisza Group), Monaco, Marcuard Group, Geneva, and RBC, Russia and ADB Consulting, Geneva, Switzerland.	Hans-Joerg Rudloff studied economics at the University of Bern and graduated in 1965. He joined Credit Suisse in Geneva and moved to New York in 1968 to join the investment banking firm of Kidder Peabody Inc. He was in charge of the Swiss operation and was elected Chairman of Kidder Peabody International and a member of the Board of Kidder Peabody Inc. in 1978. In 1980 he joined Credit Suisse First Boston and was elected Vice Chairman in 1983 and Chairman and CEO in 1989. From 1986 to 1990 Hans-Joerg Rudloff was also a member of the Executive Board of Credit Suisse in Zurich in charge of all securities and capital market departments. From 1994 to 1998 Hans-Joerg Rudloff was Chairman of MC-BBL in Luxembourg. In 1994, Hans-Joerg Rudloff was elected to the Board of Directors of Sandoz AG.	Hans-Joerg Rudloff is a member of the Advisory Board of the MBA program of the University of Bern, Switzerland and of Landeskreditbank Baden-Württemberg, Germany, and EnBW (Energie Baden-Württemberg), Germany.
Dr. h.c. Birgit Breuel German, age 67	Since 1996 Birgit Breuel has served as a Member of the Board. In 1999, she became a member of the Audit and Compliance Committee. She qualifies as an independent, Non-Executive Director.	Birgit Breuel is also a member of the Supervisory Board of Gruner+Jahr AG*, Hamburg, Germany, of WWF, Germany, and of HGV (Hamburger Gesellschaft für Vermögensund Beteiligungsverwaltung mbH), Germany.	Birgit Breuel studied politics at the Universities of Hamburg, Oxford and Geneva. She was Minister of Economy and Transport (1978-1986) and Minister of Finance (1986-1990) of Niedersachsen (Lower Saxony), the second largest state of Germany. In 1990, Birgit Breuel was elected to the Executive Board of the Treuhandanstalt, which was responsible for the privatization of the former East Germany's economy; in 1991, she also became the President of the Treuhandanstalt. From 1995 to 2000, she acted as the General Commissioner and CEO of the world exhibition EXPO 2000 in Hanover, Germany.	

* publicly listed company

Name	Function at Novartis AG	Activities in governing or supervisory bodies	Professional Background	Permanent management or Consultancy engagements
Peter Burckhardt, M.D. Swiss, age 66	Peter Burckhardt has been a member of the Board of Directors since 1996. He qualifies as an independent, Non-Executive Director.	From 1982 to 2004 Peter Burckhardt has been the Chairman of the Novartis (formerly Sandoz) Foundation for Biomedical Research in Switzerland.	After studying in Basel and Hamburg, Peter Burckhardt graduated with an M.D. from the University of Basel in 1965. He trained from 1966 to 1978 in internal medicine and endocrinology, mainly at the University Hospital of Lausanne, Switzerland, and the Massachusetts General Hospital, Boston, US. Peter Burckhardt was appointed Chief of Clinical Endocrinology in 1978, and full Professor of Internal Medicine and Chairman of the Department of Internal Medicine at the University Hospital of Lausanne in 1982. In addition to his activities as a clinician and academic teacher, Peter Burckhardt conducts clinical research, mainly in bone diseases and calcium metabolism. He has authored more than 300 scientific publications and is an editorial board member of several international scientific journals. He was president of the Swiss Society of Internal Medicine, a member of the appeal committee of the national agency for drug controls and a board member of numerous scientific societies including the Swiss Societies of Nutrition, Clinical Chemistry, Endocrinology, Bone and Mineral Research, and the Committee for Endocrinology of the European Community.	Since 1982, Peter Burckhardt has been the Head of the Department of Internal Medicine at the University Hospital of Lausanne, then chief of medical service A, until 2004. He is treasurer of the International Foundation of Osteoporosis. Since 1990, he has been the organizer and chairman of the International Symposia on Nutrition and Osteoporosis.
Srikant Datar, Ph.D. Indian, age 51	Srikant Datar became a member of the Board in 2003. He is a Non-Executive Director.	Srikant Datar is a member of the Board of Voyan Technology Inc., Santa Clara, California, and of Harvard Business School Interactive, Boston, Massachusetts.	In 1973 Professor Srikant Datar graduated with distinction in mathematics and economics at the University of Bombay. He is Chartered Accountant and holds two masters degrees and a Ph.D. from Stanford University. Professor Datar has worked as an accountant and planner in industry and as a Professor at the Universities of Carnegie Mellon, Stanford and Harvard in the US. He currently holds the Arthur Lowes Dickinson Professorship at Harvard University. 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. Srikant Datar has advised and worked with numerous renowned firms such as Du Pont, General Motors and Mellon Bank in research, development and training.	Srikant Datar is Senior Associate Dean for Executive Education at the Graduate School of Business Administration of Harvard University, Boston, Massachusetts.

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publicly listed company

Name	Function at Novartis AG	Activities in governing or supervisory bodies	Professional Background	Permanent management or Consultancy engagements
William W. George American, age 62	In 1999, William W. George was elected as a member of the Board of Directors. In 2001, he became a member of the Chairman's Committee and the Chairman of the Corporate Governance Committee. He qualifies as an independent, Non-Executive Director.	William W. George is a member of the Boards of Directors of Goldman Sachs* and Target Corporation* (formerly Dayton Hudson), Minneapolis.	William W. George received his BSIE from Georgia Institute of Technology in 1964 and his MBA from Harvard University in 1966. From 1966 to 1969, he worked in the US Department of Defense as special assistant to the Secretary of the Navy and as assistant to the Comptroller. After having served as President of Litton Microwave Cooking Products, William W. George held a series of executive positions with Honeywell from 1978 to 1989. Thereafter he served as President and Chief Operating Officer of Medtronic, Inc. in Minneapolis, and, from 1991 to 2001, as its Chief Executive Officer. From 1996 to 2002, he was Medtronic's Chairman. He has served as Executive-in-Residence at Yale School of Management and Professor of Leadership and Governance at IMD International in Lausanne, Switzerland.	William W. George is Professor of Management Practice at Harvard Business School, In addition, he is a member of the Board of Directors of the National Association of Corporate Directors and of the Carnegie Endowment for International Peace.
Alexandre F. Jetzer Swiss, age 63	Alexandre F. Jetzer has served as a Director since 1996. He is a Non-Executive Director.	Alexandre F. Jetzer is also a member of the Board of Directors of Clariden Bank, Zurich, Switzerland, of the Supervisory Board of Compagnie Financière F. Michelin, Granges-Paccot (FR), Switzerland, and of the Board of the Lucerne Festival Foundation, Lucerne, Switzerland.	Alexandre F. Jetzer graduated with Masters of law and economics from the University of Neuchâtel, Switzerland and is a In licensed attorney. After serving as General Secretary of the Swiss Federation of Commerce and Industry (Vorort) from 1967 on, Alexandre Jetzer joined Sandoz in 1980. In 1981 he was appointed Member of the Sandoz Group Executive Committee in the capacity of Chief Financial Officer (CFO) and, as of 1990, as Head of Management Resources and International Coordination. From 1995 to 1996, he was Chairman and Chief Executive Officer of Sandoz Pharmaceuticals Corporation in East Hanover, New Jersey (US) and he additionally was appointed President and CEO of Sandoz Corporation in New York (NY). After the merger which created Novartis in 1996 until 1999, he served as a member of the Novartis Group Executive Committee and Head of International Coordination, Legal & Taxes.	Consultancy Agreement with Novartis ternational AG (Government Relations Support).

* publicly listed company

Name	Function at Novartis AG	Activities in governing or supervisory bodies	Professional Background	Permanent management or Consultancy engagements
Pierre Landolt Swiss, age 57	Pierre Landolt has served as a Director since 1996. He qualifies as an inde-pendent, Non-Executive Director.	Pierre Landolt is the President of the Sandoz Family Foundation, Glaris, Switzerland, and the Chairman of the Board of Directors of Landolt Kapital SA, Pully, Switzerland, and of Emasan AG, Basel, Switzerland. He is also a member of the Board of Directors of Syngenta AG*, and of the Syngenta Foundation for Sustainable Agriculture, both in Basel, Switzerland. In addition, he serves as Chairman of the Board of Directors of Curacao International Trust Company, Curacao, Netherlands Antilles, Vaucher Manufacture Fleurier SA., Fleurier, Switzerland (Chairman), and as Vice Chairman of the Boards of Directors of Parmigiani, Mesure et Art du Temps S.A., Fleurier, Switzerland, and the Fondation du Montreux Jazz Festival, Montreux, Switzerland.	Pierre Landolt graduated with a Bachelor of Law degree from the University of Paris-Assas. From 1974 to 1976, he worked for Sandoz Brazil. In 1977, he acquired an agricultural estate in Brazil, cultivating organic tropical fruit as well as producing dairy products. In 1989, he founded a firm for irrigation systems. In the same year, he became the main associate and director of a bank in São Paulo. Since 1997 Pierre Landolt has been Associate and Chairman of Axial Par Ltda, São Paulo, a company investing in sustainability. In 2000, he was co-founder of Eco Carbone LLC, Delaware, US, a company focused on the development of carbon sequestration processes in Europe, Africa and South America.	
Ulrich Lehner, Ph.D. German, age 58	Ulrich Lehner was elected to the Board of Directors of Novartis AG in 2002. He is a member of the Audit and Compliance Committee. The Board has appointed him as Audit Committee Financial Expert. He qualifies as an independent Non-Executive Director.	Ulrich Lehner is President and CEO of Henkel KGaA, Germany. He also serves as a member of the Board of Ecolab Inc.*, St. Paul, US, as member of the supervisory board of E.ON AG* and of HSBC Trinkaus & Burkhardt KGaA*, both in Düsseldorf, Germany.	Ulrich Lehner studied business administration and mechanical engineering. From 1975 to 1981, Ulrich Lehner was an auditor with KPMG Deutsche Treuhand-Gesellschaft AG in Düsseldorf. In 1981, he joined Henkel KGaA. After heading the Controlling Department of Fried. Krupp GmbH in Essen, Germany, from 1983 to 1986, he returned to Henkel KGaA as Finance Director. From 1991 to 1994, Ulrich Lehner headed the Management Holding Henkel Asia-Pacific Ltd. in Hong Kong. From 1995 to 2000, he served Henkel KGaA, Düsseldorf, as Executive Vice President, Finance/Logistics (CFO).	Ulrich Lehner is a member of the Advisory Board of Dr. August Oetker KG, Bielefeld, Germany, and of Krombacher Brauerei, Krombach, Germany. He is an Honorary Professor at the University of Münster, Germany.

* publicly listed company

Name	Function at Novartis AG	Activities in governing or supervisory bodies	Professional Background	Permanent management or Consultancy engagements
Dr. Ing. Wendelin Wiedeking German, age 52	Wendelin Wiedeking was elected as a member of the Board in 2003. He qualifies as an independent, Non-Executive Director.	Wendelin Wiedeking is Chairman of the Executive Board of Dr. Ing. h.c. F. Porsche AG*, Germany, and a member of the Supervisory Board of Directors of Deutsche Telekom AG*, Germany, and of Eagle Picher Incorporated*, Phoenix, Arizona.	Born in Ahlen, Germany, Wendelin Wiedeking studied mechanical engineering and worked as a scientific assistant in the Machine Tool Laboratory of the Rhine-Westphalian College of Advanced Technology in Aachen. His professional career began in 1983 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 the Glyco MetallWerke KG in Wiesbaden as Division Manager, where he advanced by 1990 to the position of Chief Executive and Chairman of the Board of Management of Glyco AG. In 1991 he returned to Porsche AG as Production Director. A year later, the Supervisory Board appointed him spokesman of the Executive Board (CEO), and in 1993 its Chairman.	
Rolf M. Zinkernagel, M.D. Swiss, age 60	In 1999, Rolf M. Zinkernagel was elected to the Board of Directors of Novartis AG. He has been a member of the Corporate Governance Committee since 2001. He qualifies as an independent, Non-Executive Director.		Rolf M. Zinkernagel graduated from the University of Basel with an M.D. in 1970. Since 1992 he has been Professor and Director of the Institute of Experimental Immunology at the University of Zurich. Rolf M. Zinkernagel has received many awards and prizes for his work and contribution to science, the most prestigious being the Nobel Prize for Medicine which he was awarded in 1996. Rolf M. Zinkernagel was a member of the Board of Directors of Cytos Biotechnology AG, Schlieren/Zurich, Switzerland, until April 2003.	Rolf M. Zinkernagel is a member of the Swiss Society of Allergy and Immunology, the American Associations of Immunologists and of Pathologists, the ENI European Network of Immunological Institutions, the International Society for Antiviral Research, and President of the Executive Board of the International Union of Immunological Societies (IUIS). He is also a member of the Scientific Advisory Boards of: The Lombard Odier, Darier Hentsch & Cie Bank, Geneva, Switzerland; BT & T, Jersey; Bio-Alliance AG, Frankfurt, Germany; Aravis General Partner Ltd., Cayman Islands; Cytos Biotechnology AG, Schlieren/Zurich, Switzerland; Bioxell, Milan, Italy; Esbatech, Zurich, Switzerland; Novimmune, Geneva, Switzerland; Miikana Therapeutics, Fremont CA; Cancevir, Zurich, Switzerland, and Mann-Kind, Sylmar CA, US. Rolf M. Zinkernagel is also a Science Consultant to: GenPat77, Berlin/Munich, Germany; Aponetics AG, Witterswil, Switzerland; Solis Therapeutics, Palo Alto, US; Ganymed, Mainz, Germany; and Zhen-Ao Group, Dalian, China.

* Publicly listed company.

Executive Committee

Dr. h.c. Daniel Vasella, M.D.
Chairman and CEO;
Swiss, age 51

Urs Baerlocher, J.D.
Head of Legal and General Affairs;
Member since 1999;
Swiss, age 62

Raymund Breu, Ph.D.
Chief Financial Officer;
Member since 1996;
Swiss, age 59

Paul Choffat, J.D.
Head of Consumer Health;
Member since 2002;
Swiss, age 55

Thomas Ebeling
Head of Pharmaceuticals;
Member since 1998;
German, age 45

Mark C. Fishman, M.D.
Head of Biomedical Research;
Member since 2002;
American, age 54

Permanent Attendees to the Executive Committee

Juergen Brokatzky-Geiger, Ph.D.
Head of Human Resources;
German, age 52

Steven Kelmar
Head of Public Affairs and Communications;
American, age 51

Andreas Rummelt, Ph.D.
Head of Sandoz;
German, age 48
(For career details, see page 108)

Secretary to the Executive Committee

Max Kaufmann, Ph.D.

Dr. h.c. Daniel Vasella, M.D. Swiss, age 51

Daniel Vasella graduated with an M.D. from the University of Bern in 1979. After holding a number of medical positions in Switzerland, he joined Sandoz Pharmaceuticals Corporation in the US in 1988. From 1993 to 1995, Daniel Vasella advanced from Head of Corporate Marketing and Senior Vice President and Head of Worldwide Development to Chief Operating Officer of Sandoz Pharma Ltd. In 1995 and 1996, Daniel Vasella was a member of the Sandoz Group Executive Committee and Chief Executive Officer of Sandoz Pharma Ltd. After the merger that created Novartis in 1996, Daniel Vasella served as President and Chief Executive Officer. In 1999, he additionally was appointed Chairman of the Board of Directors. Daniel Vasella is also a member of the Board of Directors of Pepsico, Inc., United States. In addition, he is a member of the International Board of Governors of the Peres Center for Peace in Israel and a member of several industry associations and educational institutions, including the International Business Leaders Advisory Council for the Mayor of Shanghai. He is a member of the Board of Directors of Associates of Harvard Business School. In 2002, Dr. Vasella was awarded an honorary doctorate by the University of Basel. He has been honored with the Ordem Nacional do Cruzeiro do Sul (Brazil) and holds the rank of Chevalier in the Ordre National de la Légion d'Honneur (France).

Urs Baerlocher, J.D. Swiss, age 62

Urs Baerlocher earned his JD from the University of Basel and was admitted to the bar in 1970. After working as a tax lawyer, he joined Sandoz in 1973, and held a number of key positions including Head of Strategic Planning and Head of Group Reporting. In 1987, he was made a member of the Sandoz Executive Board, responsible i.a. for Strategic Planning, HR, Legal, Taxes, Patents and Trademarks. In 1990, he became CEO of the Sandoz Nutrition Division and then, in 1993, CEO of Sandoz Pharma. In 1995, Urs Baerlocher assumed the position of Chairman of the Board of Sandoz Deutschland GmbH (Germany) and Biochemie GmbH (Austria). After the formation of Novartis in 1996 he served as Head of Legal, Tax, Insurance, to which Corporate Security and International Coordination were added. He became a member of the Executive Committee of Novartis in 1999. He has held his current position as Head of Legal and General Affairs since 2000, when his responsibilities were extended to include Corporate Intellectual Property and Corporate Health, Safety & Environment as well as, from 2004, the newly created function, Corporate Risk Management.

Raymund Breu, Ph.D. Swiss, age 59

Raymund Breu graduated from the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland, with a PhD in mathematics. In 1975, he joined the Treasury Department of the Sandoz Group, and, in 1982, became the Head of Finance for the Sandoz affiliates in the UK. In 1985, he was appointed Chief Financial Officer of Sandoz Corporation in New York, where he was responsible for all Sandoz Finance activities in the US. In 1990, he became Group Treasurer of Sandoz Ltd., Basel, Switzerland, and, in 1993, Head of Group Finance and Member of the Sandoz Executive Board. Following the formation of Novartis in 1996, he assumed his current position as Chief Financial Officer and member of the Group Executive Committee. Raymund Breu is also a member of the Board of Directors of Swiss Re, Chiron (US), the SWX Swiss Exchange and its admission panel, and the Swiss takeover commission.

Paul Choffat, J.D. Swiss, age 55

Paul Choffat holds a JD from the University of Lausanne, Switzerland, and an MBA from the International Institute for Management Development in Lausanne. He started his professional career with Nestlé in Zurich, Switzerland, and London, UK. From 1981 to 1985, he was a project manager at McKinsey & Company in Zurich. Between 1987 and 1994, he held a number of leading positions at Landis & Gyr in Zug, Switzerland, where he became a member of the Executive Board and Head of the Communications Division. In 1994, he moved to Von Roll in Gerlafingen, Switzerland, as CEO. Paul Choffat joined Sandoz in 1995 as Head of Management Resources and International Coordination. He subsequently became a member of the Executive Board and was responsible for Group Planning and Organization. During the Novartis merger he headed the integration office. In 1996, he returned to line management as CEO of Fotolabo SA, Montpreveyres-sur-Lausanne, Switzerland, where he remained for three years before becoming an entrepreneur and private investor in 1999. He rejoined Novartis in January 2002 as Head of Novartis Consumer Health and member of the Group Executive Committee.

Thomas Ebeling German, age 45

Thomas Ebeling graduated from the University of Hamburg with a degree in psychology. From 1987 to 1991, he held several positions of increasing responsibility at Reemstma Germany. In 1991, he joined Pepsi-Cola Germany as Marketing Director. He became Marketing Director for Germany and Austria in 1993 and was National Sales and Franchise Director for Pepsi's retail and on-premise sales from 1994. He then served as General Manager of Pepsi-Cola Germany. In 1997, Thomas Ebeling joined Novartis as General Manager of Novartis Nutrition for Germany and Austria. After having served as CEO of Novartis Nutrition, he became CEO of Novartis Consumer Health worldwide, and then Chief Operating Officer of Novartis Pharmaceuticals, before attaining his present position in 2000.

Mark C. Fishman, M.D. American, age 54

Mark C. Fishman is a graduate of Yale College and Harvard Medical School. He completed his Internal Medicine residency, Chief residency, and Cardiology training at the Massachusetts General Hospital. He serves on several editorial boards and has worked with national policy and scientific committees including those of the National Institutes of Health (NIH) and Wellcome Trust. He has been honored with many awards and distinguished lectureships and is a Fellow of the American Academy of Arts and Sciences. Before joining Novartis, Mark C. Fishman was Professor of Medicine at Harvard Medical School and Chief of Cardiology and Director of the Cardiovascular Research Center at the Massachusetts General Hospital in Boston.

Juergen Brokatzky-Geiger, Ph.D. German, age 52

Juergen Brokatzky-Geiger graduated with a PhD in Chemistry from the University of Freiburg, Germany, in 1982. He joined Ciba-Geigy in 1983 as a Laboratory Head in the Pharmaceutical Division. After a job rotation in Summit, NJ, from 1987 to 1988 he held a number of positions of increasing responsibility, 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, Juergen Brokatzky-Geiger was appointed Integration Officer of Technical Operations. Thereafter, he became the Head of Chemical and Analytical Development and, from 1999 until August 2003, he served as the Global Head of Technical R&D. Juergen Brokatzky-Geiger was appointed to his present position as Head of Human Resources on September 1, 2003.

Steven Kelmar American, age 51

Steven Kelmar graduated with a Bachelor of Arts degree in Public Administration and Economics from Pennsylvania State University and spent 14 years (1979 1993) in public service in several executive positions. He was Chief of Staff to two Members of the US Congress and also worked in several legislative capacities for Members of the US Senate and the House of Representatives before his appointment by President Bush in 1990 to the position of Assistant Secretary for Legislation in the US Department of Health and Human Services. In 1993, he joined Strategic Management Association of Alexandria, Virginia. In 1997, he moved to Medtronic Inc., to become Senior Vice President of External Relations and joined Novartis as Head of Public Affairs and Communications in Febuary 2003.

Business Unit Heads

Name, nationality and age	Head of Business Unit	Active for Novartis since	Significant positions previously held	Education
David Epstein B.Sc., M.B.A. American, 43	Specialty Medicines and Oncology	1989	Chief Operating Officer and member of the Executive Committee of Novartis Pharmaceuticals Corporation (US)	Bachelor of Science, Pharmacy, Rutgers University, and M.B.A., Columbia University
Anthony Rosenberg B.Sc., M.Sc. British, 51	Transplantation and Immunology	1980	Various leading positions with Sandoz UK and Novartis Group	Bachelor of Science, University of Leicester, and Master of Science, University of London
Flemming Ørnskov M.D., M.B.A. Danish, 46	Ophthalmics	2001	Head of Cardiovascular Products Group, Novartis Pharmaceuticals Corp. (US)	M.D., University of Copenhagen, M.B.A., Insead, and M.P.H., Harvard University
Peter Hewes B.A. Econ. British, 57	Mature Products	1976	Country Head of Sandoz Portugal; Regional European Head of Novartis Pharma	Bachelor of Arts, Economics, University of Reading, UK
Andreas Rummelt Ph.D. German, 48	Sandoz[(1)]	1985	Head of Worldwide Technical Research and Development (TRD), Head of Global Technical Operations for Novartis and member of the Pharma Executive Committee	Ph.D., University of Erlangen-Nuremberg, Germany
Larry Allgaier B.Sc. American, 46	OTC	2003	VP and General Manager, North America Baby Care, for Procter & Gamble	Bachelor of Science, Chemical Engineering, Christian Brothers University
George Gunn BVM&S, DVSM, MRCVS British, 54	Animal Health	2003	President Animal Health, Pharmacia Corp.; Head Animal Health, US and Region North America, for Novartis Animal Health	Bachelor of Veterinary Medicine and Surgery from the Royal Dick School of Veterinary Studies, Edinburgh, UK
Michel Gardet M.A. Business French, 47	Medical Nutrition	1991	General Manager of Novartis Consumer Health Iberia; Head of Health and Functional Nutrition Novartis	Graduate of the Ecole Supérieure de Commerce Paris
Kurt T. Schmidt B.Sc., M.B.A. American, 47	Infant & Baby	2002	General Manager Food for Kraft Foods, Germany; Marketing Director Wrigley Company for German-speaking Europe, Eastern Europe and the Middle East; Head of Novartis Animal Health Business Unit	Bachelor of Science, United States Naval Academy, Annapolis, and M.B.A., University of Chicago
Joseph T. Mallof B.Sc., M.B.A. American, 52	CIBA Vision	2002	Regional President of S.C. Johnson & Son for the Americas Asia Pacific; General Manager of Procter & Gamble in Japan and the Philippines	Bachelor of Science, Purdue University, and M.B.A., University of Chicago

(1) Andreas Rummelt succeeded Christian Seiwald, effective November 1, 2004.

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Further Information on Corporate Governance

Topic	Location
Share Capital and Convertible Bonds	
Capital structure	Articles of Incorporation of Novartis AG (http://www.novartis.com/investors/en/governance.shtml)
Share capital movements	Notes 17 of the Group's consolidated financial statements
Shareholder rights	
Information on the Novartis share and on the shareholders' participation rights	Operating and Financial Review (see page 111) Articles of Incorporation of Novartis AG (http://www.novartis.com/investors/en/governance.shtml) Investor Relations information: http://www.novartis.com/investors
Board of Directors and Executive Committee	
Internal organization and allocation of responsibilities	Board Regulations and Board Committee Charters (http://www.novartis.com/investors/en/governance.shtml)
CEO and Senior Financial Officers	
Novartis Code of Ethical Conduct	(http://www.novartis.com/investors/en/governance.shtml)
Further information	
Sources for further information and anticipated key reporting dates in 2005	(http://www.novartis.com/investors/en/governance.shtml)

Financial Report

Operating and Financial Review

Key figures

	2004 USD millions	2003 USD millions	% Change
Net sales	**28 247**	**24 864**	**14**
Operating income	**6 539**	**5 889**	**11**
Net income	**5 767**	**5 016**	**15**
Change in net liquidity	449	317	
Equity at year-end	33 783	30 429	
Earnings per share (USD)	2.36	2.03	16
Dividends per share (CHF)[1]	1.05	1.00	5

(1) 2004: Proposal to the shareholders' meeting

Free Cash Flow

	2004 USD millions	2003 USD millions	Change in %
Cash Flow	**6 812**	**6 443**	**6**
Change in provisions, net current assets and other operating cash flow items	-87	209	
Cash Flow from operating activities	**6 725**	**6 652**	**1**
Investment in property, plant & equipment	-1 269	-1 329	-5
Change in other assets	-129	29	
Dividends	-1 968	-1 724	14
Free Cash Flow	**3 359**	**3 628**	**-7**

Key Financial Developments in 2004

Group Net Sales

up 14% (9% in local currencies) with both Pharmaceuticals and Consumer Health net sales growing at double-digit rates in US dollars

Pharmaceuticals

outperforms industry average in most major markets, delivering net sales growth of 15% (+10% in local currencies), due mainly to the innovative and fast-growing cardiovascular and oncology franchises

Consumer Health

net sales up 10% (+5% in local currencies) as OTC, Medical Nutrition and Animal Health businesses offset slower net sales growth in Sandoz

Operating Income

rises 11% driven by robust business expansion

Net Income

up 15% due to strong operating performance

Earnings Per Share

Earnings per share rises 16% in USD

Dividend

proposed to shareholders for 2004 increases 5% to CHF 1.05 per share

Sarbanes-Oxley

Section 404 attestation of internal control over financial reporting successfully implemented

Operating and Financial Review

This operating and financial review should be read in conjunction with the consolidated financial statements. The consolidated financial statements and the financial information discussed below have been prepared in accordance with International Financial Reporting Standards (IFRS). Please see note 32 of the consolidated financial statements for a discussion of the significant differences between IFRS and US Generally Accepted Accounting Principles (US GAAP).

Factors Affecting Results

The global health care market is growing rapidly due to, among other reasons, the aging population in developed countries, unmet needs in many therapeutic areas (such as cancer and cardiovascular disease), the adoption of more industrialized lifestyles in emerging economies, and increased consumer demand fueled by broad and rapid access to information. At the same time, the health care industry is under increasing pressure to reduce prices as payors in the public and private sectors seek to curb rising health care costs.

Novartis Group revenues are directly related to the Group's ability to identify and develop high potential products and to bring them to market quickly and effectively. Efficient and productive research and development is crucial in this environment since Novartis, like its competitors, searches for efficacious and cost-efficient pharmaceutical solutions to health problems. The resource requirements to access the full range of new technologies has been one reason for industry consolidation, as well as the increase in collaborations between leading companies and niche players at the forefront of their particular technology areas. The growth in new technology, particularly genomics, is expected to have a fundamental impact on the pharmaceutical industry and upon the Group's future development.

Competition in the generic pharmaceutical market continues to intensify as the pharmaceutical industry adjusts to increased pressures to contain health care costs. Brand-name companies have taken aggressive steps to counter the growth of the generics industry. In particular, brand-name companies continue to sell their products to the generic market directly by acquiring or forming strategic alliances with generic pharmaceutical companies. No significant regulatory approvals are required for a brand-name manufacturer to sell directly or through a third party to the generic market. In addition, brand-name companies continually seek new ways to delay generic introduction and to decrease the impact of generic competition. These efforts by the brand-name pharmaceutical in-dustryhave had, and likely will continue to have, a negative effect on the results of operations of our Sandoz Division.

Under US law the Food and Drug Administration (FDA) must award 180 days of market exclusivity to the first generic manufacturer who challenges the patent of a branded product. However, recent changes in the Hatch-Waxman Act may affect the availability of this market exclusivity in the future. The new amendments now require generic applicants to launch their products within certain time frames or risk losing the marketing exclusivity that they had gained through being a first-to-file applicant.

At times Novartis seeks approval to market generic products before the expiration of patents held by others for those products, based upon its belief that such patents are invalid, unenforceable, or would not be infringed by its products. As a result, Novartis often faces significant patent litigation. If Novartis is unsuccessful in such litigation, then its ability to launch new products will be substantially limited. In addition, depending upon a complex analysis of a variety of legal and commercial factors, Novartis may, in certain circumstances, elect to market a generic product even though litigation is still pending. This could be before any court decision or while an appeal of a lower court decision is pending. Should Novartis elect to proceed in this manner, it could face substantial patent liability damages if the final court decision is adverse to us.

In addition, competitive conditions have intensified as a result of regulation, price reductions, reference prices, parallel imports, higher patient co-payments and increased pressure on physicians to reduce their prescribing of prescription medicines. Pressure on the Novartis Pharmaceutical Division and other pharmaceutical companies to lower prices is expected to increase primarily due to government initiatives to reduce patient reimbursement, restrict prescribing levels, increase the use of generics and impose overall price cuts. The introduction of technologically innovative products and devices by competitors and growing product distribution and importation anomalies, mainly in the EU, pose additional challenges. Exchange rate exposure also affects the Group's results as Novartis has both sales and costs in many currencies other than the US dollar, its reporting currency. This gives rise to both transaction exposure in subsidiary financial statements due to foreign currency denominated transactions and translation exposure from converting non-US dollar subsidiary results and balance sheets into the Group's US dollar consolidated financial statements. The Group's results have not been significantly affected by inflation.

Critical Accounting Policies

The Novartis Group's principal accounting policies are set out in note 1 of the Group's consolidated financial statements and conform to International Financial Reporting Standards (IFRS). Significant judgments and estimates are used in the preparation of the consolidated financial statements which, to the extent that actual outcomes and results may differ from these assumptions and estimates, could affect the accounting in the areas described in this section.

Revenue

Revenue is recognized when title and risk of loss for the products is transferred to the customer. Accruals for US Medicaid and similar rebates in the US and other countries, chargebacks, estimated returns, customer rebates and discounts are established concurrently with the recognition of revenue. Accordingly, sales are reported net of these allowances, which, since they are estimated, may not fully reflect the final outcome.

The following briefly describes the nature of each accrual and how such accruals are estimated with specific reference to the US practices:

The US Medicaid program, established under Title XIX of the Social Security Act, is a state administered program, using state and federal funds, to provide assistance to certain vulnerable and needy individuals and families. In 1990, the Medicaid Drug Rebate Program was established to reduce state and federal expenditures for prescription drugs. Under the rebate program, Novartis has signed an agreement to provide a rebate on drugs paid for by a state. Provisions for estimating Medicaid Rebates are calculated using a combination of historical experience, product and population growth, anticipated price increases, the impact of contracting strategies and specific terms in the individual state agreements. These provisions are adjusted based upon the established refiling process with the individual states.

Novartis participates in prescription drug savings programs that offer savings to patients that are eligible Medicare participants. These savings vary based on a patient's current drug coverage and personal income levels.

Novartis has arrangements with certain parties establishing discounted prices for its products. A chargeback represents the difference between the invoice price to the wholesaler and the indirect customer's contract discount price. Provisions for estimating chargebacks are calculated using a combination of historical experience, product growth rates and the specific terms in each agreement.

Where there is a historical experience of Novartis agreeing to customer returns, Novartis records a reserve for estimated sales returns by applying historical experience of customer returns to the amounts invoiced and the amount of returned product to be destroyed versus product that can be placed back in inventory for resale.

Novartis' policy relating to supply of pharmaceutical products is to maintain inventories on a consistent level from year to year based on the pattern of consumption. A process exists at Novartis Pharmaceuticals Corporation to monitor on a monthly basis inventory levels at wholesalers based on the gross sales volume, prescription volumes based on IMS data and information received from the key wholesalers. Based on this information, the inventories on hand at wholesalers and other distribution channels in the US are less than one month at December 31, 2004. Similar processes exist in the Sandoz generics and OTC businesses. Novartis believes the third party data sources of information are sufficiently reliable, however its accuracy cannot be verified.

Customer rebates are offered to key managed care, group purchasing organizations and other direct and indirect customers to sustain and increase Novartis product market share. These rebate programs provide that the customer receive a rebate after attaining certain performance parameters relating to product purchases, formulary status and/or pre-established market share milestones relative to competitors. Since rebates are contractually agreed upon, rebates are estimated based on the specific terms in each agreement, historical experience and product growth rates.

Cash discounts are offered to customers to encourage prompt payment that is accrued at the time of invoicing.

Shelf-stock adjustments are granted to customers based on the existing inventory of a customer following decreases in the invoice or contract price of the related product. Provisions for shelf-stock adjustments are determined at the time of the price decline or at the point of sale if a price decline is reasonably estimable and are based on estimated inventory levels.

Historical data has been adjusted, where applicable, to give effect to subsequent events, including, primarily, the effect of increased turnover on such provisions.

The US market has the most complex arrangements in this area. The following tables show the extent of rebates made and payment experiences in the US for the key Novartis activities affected, which are namely Novartis Pharmaceuticals Corporation, Sandoz Inc. and Novartis Consumer Health Inc. (OTC):

Accruals for Revenue Deductions in the US

			Income Statement charge		
	January 1, 2004 USD millions	**Payments USD millions**	**Adjustments of prior years USD millions**	**Current year USD millions**	**December 31, 2004 USD millions**
Medicaid Rebates & Credits including Prescription drug savings cards	247	-562	-15	639	309
Managed Health Care rebates & other rebates	251	-565	-34	572	224
Chargebacks	162	-819	-1	799	141
Sales Returns	190	-127	-1	103	165
Other deductions	91	-351	-1	345	84
Total	**941**	**-2 424**	**-52**	**2 458**	**923**

Gross to Net sales reconciliation in the US

	2004 USD millions	in % of gross sales
Gross sales subject to deductions	**11 028**	**100**
Medicaid & Medicare rebates and prescription drug saving cards	-624	-6
Managed Health Care rebates & other rebates	-538	-5
Chargebacks including Hospital chargebacks	-800	-7
Sales Returns	-115	-1
Other deductions	-355	-3
Total Gross to Net sales Adjustments[(1)]	**-2 432**	**-22**
Net sales	**8 596**	**78**

(1) USD 26 million was charged directly to the Income Statement without being recorded in the Revenue Deduction Accruals.

Impairment of long-lived assets

Long-lived assets are regularly reviewed for impairment, including identifiable intangibles and goodwill, whenever events or changes in circumstance indicate that the balance sheet carrying amount of the asset may not be recoverable. In order to assess if there is any impairment, estimates are made of the future cash flows expected to result from the use of the asset and its eventual disposal. If the balance sheet carrying amount of the asset exceeds the higher of its value in use to Novartis or its anticipated net selling price, an impairment loss for the difference is recognized. Actual outcomes could vary significantly from such estimates of discounted future cash flows. Factors such as changes in the planned use of buildings, machinery or equipment, or closing of facilities or lower than anticipated sales for products with capitalized rights could result in shortened useful lives or impairment.

Fair value or impairment adjustments on financial instruments

The Novartis Group has extensive investments in marketable securities and has significant derivative financial instrument positions that are mainly, but not exclusively, held for hedging underlying positions. Depending on the development of equity and derivative markets, it may be necessary to recognize impairments on the marketable securities or losses on the derivative positions in the Group's consolidated income statement.

Investments in associated companies

Novartis has investments in associated companies (defined generally as investments of between 20% and 50% of a company's voting shares) that are accounted for by using the equity method. Due to the various estimates that have been made in applying the equity method, the amounts recorded in the consolidated financial statements in respect of Roche Holding AG and Chiron Corporation may require adjustments in the following year after more financial and other information becomes publicly available.

Retirement benefit plans

The Novartis Group sponsors pension and other retirement plans in various forms covering employees who meet eligibility requirements. These plans cover the majority of Group employees. Several statistical and other factors that attempt to anticipate future events are used in calculating the expense and liability related to the plans. These factors include assumptions about the discount rate, expected return on plan assets and rate of future compensation increases, as determined by Group management within certain guidelines. In addition, the Group's actuarial consultants use statistical information such as withdrawal and mortality rates for their estimates. The actuarial assumptions used may differ materially from actual results due to changing market and economic conditions, higher or lower withdrawal rates or longer or shorter life spans of participants. These differences may result in a significant impact to the amount of pension income or expense recorded in future years.

Environmental provisions

The Group has provisions for environmental remediation costs.The material components of the environmental provisions consist of costs to fully clean and refurbish contaminated sites and to treat and contain contamination at sites where the environmental exposure is less severe. Future remediation expenses are affected by a number of uncertainties that include, but are not limited to, the method and extent of remediation, the percentage of waste material attributable to Novartis at the remediation sites relative to that attributable to other parties, and the financial capabilities of the other potentially responsible parties. 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 cannot guarantee that additional costs will not be incurred beyond the amounts accrued. The effect of resolution of environmental matters on results of operations cannot be predicted due to uncertainty concerning both the amount and the timing of future expenditures and the results of future operations. Novartis believes that such additional amounts, if any, would not be material to the Novartis financial condition but could be material to future results of operations in a given period.

Litigation provisions

A number of Novartis Group subsidiaries are subject to litigation arising out of the normal conduct of their businesses, as a result of which claims could be made against them which might not be covered by existing provisions or by insurance. Novartis believes that the outcomes of such actions, if any, would not be material to the Group's financial condition but could be material to future results of operations in a given period.

Accounting developments

The International Accounting Standards Board (IASB) has and will continue to critically examine current International Financial Reporting Standards (IFRS) with a view toward increasing international harmonization of accounting rules. This process of amendment and convergence of worldwide accounting rules resulted significant amendments to the existing rules from January 1, 2005 in such areas as the accounting for share-based compensation, goodwill and intangibles, marketable securities and derivative financial instruments as well as the classification of certain income statement and balance sheet positions. These are discussed in more detail in note 32 m xi of the consolidated financial statements.

Compliance with Sarbanes-Oxley Act of 2002 on Internal Control over Financial Reporting

In line with domestic US registrants with the Securities and Exchange Commission (SEC), Novartis has successfully completed its assessment of internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act in 2004 and obtained on this assessment a report from its independent auditors. No material weaknesses were revealed by this extensive review of the internal control over financial reporting.

Results of Operations

	Year ended Dec 31, 2004 USD millions	Year ended Dec 31, 2003 USD millions	Change in %
Net sales	**28 247**	**24 864**	**14**
Cost of Goods Sold	-6 625	-5 894	12
Marketing & Sales	-8 873	-7 854	13
Research & Development	-4 207	-3 756	12
General & Administration	-1 540	-1 381	12
Other income & expenses	-463	-90	
Operating income	**6 539**	**5 889**	**11**
Result from associated companies	142	-200	
Financial income, net	227	379	-40
Income before taxes and minority interests	**6 908**	**6 068**	**14**
Taxes	-1 126	-1 008	12
Income before minority interests	**5 782**	**5 060**	**14**
Minority interests	-15	-44	-66
Net income	**5 767**	**5 016**	**15**

Novartis Group net sales rose 14% (+9% in local currencies, or lc) to USD 28.2 billion in 2004 as strong results were recorded in both Pharmaceuticals as well as Consumer Health, where OTC and Medical Nutrition offset lower net sales growth in the Sandoz generics business. Volume increases were the primary growth driver contributing 8 percentage points to Group net sales growth. Currency benefits added 5 percentage points, while acquisitions added one percentage point. Price increases across the Group were insignificant (<1%). Pharmaceuticals accounted for 65% of total Group net sales and Consumer Health 35%, while the US accounted for 40% of total Group net sales, Europe for 36% and the rest of the world for 24%.

Operating income advanced 11%, supported by strong volume expansion of leading Pharmaceutical products. Most categories of functional expenses had a positive impact on the operating margin. Cost of Goods Sold (COGS) rose 12% but declined as a percentage of net sales by 0.2 percentage points to 23.5% owing mainly to efficiency gains and better product mix in Pharmaceuticals. Marketing & Sales fell 0.2 percentage points to 31.4% of net sales based primarily on sales-force productivity improvements, while Research & Development declined 0.2 percentage points to 14.9% of net sales following fewer upfront development costs. General & Administrative expenses also rose at a slower pace than sales, accounting for 5.5% of net sales. The Group operating margin, however, fell 0.6 percentage points to 23.1% from 23.7% in 2003 based mainly on one-time charges in Sandoz, Medical Nutrition, Animal Health and Corporate items that led to higher Other Expenses.

The main factors contributing to higher Other Expenses were a reduction of Corporate pension income by USD 102 million; increased restructuring charges and related impairments on property, plant & equipment in the Sandoz generics business of USD 37 million, a reduction of USD 171 million in hedging gains and lower product divestment gains principally due to the USD 178 million *Fioricet/Fiorinal* gain recorded in 2003. Overall, the strong organic growth and positive contribution this year from associated companies resulted in net income expanding 15% to USD 5.8 billion. Earnings per share rose 16%, slightly more than net income due to the impact of the share buy-back program, to USD 2.36 per share in 2004 from USD 2.03 per share in 2003.

Net Sales

	Year ended Dec 31, 2004 USD millions	Year ended Dec 31, 2003 USD millions	Change in USD %	Change in local currencies %
Pharmaceuticals	**18 497**	**16 020**	**15**	**10**
Sandoz	3 045	2 906	5	-1
OTC	1 975	1 772	11	5
Animal Health	756	682	11	5
Medical Nutrition	1 121	815	38	31
Infant & Baby	1 441	1 361	6	6
CIBA Vision	1 412	1 308	8	2
Consumer Health	**9 750**	**8 844**	**10**	**5**
Total	**28 247**	**24 864**	**14**	**9**

Top Twenty Pharmaceuticals Division Product Net Sales 2004

Brands	Therapeutic Area	USA USD millions	% change in local currencies	Rest of world USD millions	% change in local currencies	Total USD millions	% change in local currencies
Diovan/Co-Diovan	Hypertension	1 323	20	1 770	25	3 093	22
Gleevec/Glivec	Chronic myeloid leukemia/Gastro-intestinal stromal tumors	368	23	1 266	41	1 634	36
Lamisil (group)	Fungal infections	528	23	634	7	1 162	14
Zometa	Cancer complications	630	10	448	29	1 078	17
Neoral/Sandimmun	Transplantation	180	-17	831	-4	1 011	-7
Lotrel	Hypertension	920	18			920	18
Sandostatin (incl. LAR)	Acromegaly	374	18	453	11	827	14
Lescol	Cholesterol reduction	284	-8	474	3	758	-2
Voltaren (group)	Inflammation/pain	9	13	629	1	638	1
Trileptal	Epilepsy	391	28	127	30	518	29
Top ten products		**5 007**	**15**	**6 632**	**16**	**11 639**	**16**
Visudyne	Wet form of age-related macular degeneration	209	15	239	25	448	20
Exelon	Alzheimer's disease	179	-1	243	20	422	10
Tegretol (incl. CR/XR)	Epilepsy	103	-16	293	5	396	-2
Femara	Breast cancer	166	137	220	29	386	62
Miacalcic	Osteoporosis	236	-1	141	-13	377	-6
Elidel	Eczema	279	36	70	123	349	47
Foradil	Asthma	13	44	308	1	321	2
Leponex/Clozaril	Schizophrenia	72	-16	236	-3	308	-7
Zelnorm/Zelmac	Irritable bowel syndrome	249	89	50	45	299	80
Famvir	Viral infections	160	10	95	0	255	6
Top twenty products		**6 673**	**17**	**8 527**	**15**	**15 200**	**16**
Rest of portfolio		695	-20	2 602	-5	3 297	-9
Total		**7 368**	**12**	**11 129**	**9**	**18 497**	**10**

Pharmaceuticals Division

The Pharmaceuticals Division, bolstered by the five blockbusters *Diovan, Gleevec/Glivec, Lamisil, Zometa* and *Neoral,* reported a net sales increase of 15% (+10% lc) amid outstanding performances from top-selling prescription drugs in both the Primary Care and Specialty Medicines portfolios and above-average growth in several key markets. Most therapeutic areas expanded at double-digit rates in US dollars. Volume expansion contributed 10 percentage points, while currency benefits added five percentage points. Price changes had little impact.

Total net sales of strategic franchise products (Pharmaceutical net sales excluding mature products) rose 21% (+16% lc) to USD 15.4 billion as seven of the top ten drugs delivered robust double-digit net sales increases. Primary Care (excluding Mature Products) reported a net sales increase of 21% (+17% lc), led by the strong cardiovascular franchise (+21%, +17% lc) with the ongoing growth of the antihypertensive medicines *Diovan,* the No. 1 angiotensin receptor blocker (ARB) and No. 2 antihypertensive worldwide, and *Lotrel,* the No. 1 branded US combination high blood pressure treatment. Net sales in Specialty Medicines, which includes our activities in Oncology, Transplantation & Immunology, and Ophthalmics, rose 22% (+15% lc) and accounted for 33% of Pharmaceuticals net sales versus 31% in 2003. The Oncology franchise reported a 28% (+22% lc) advance, ranking as one of the fastest-growing businesses in its sector. The key oncology drugs *Gleevec/Glivec, Zometa* and *Femara* delivered dynamic growth as new data was presented during 2004 that continued to demonstrate benefits to patients. Mature Products reported a 7% decline (-12% lc) in sales to USD 3.1 billion.

Primary Care

Diovan (+28%; +22% lc; +20% US) maintained a strong growth rate in 2004 in the US and worldwide with sales exceeding USD 3.0 billion, reaffirming its position as the world's leading ARB and one of the fastest-growing branded hypertension medicines. In the US, *Diovan* reached 2.6% of the US broad antihypertension market segment and 38.5% of the ARB therapeutic category (IMS Health data as of December 2004), which is expected to remain one of the most dynamic pharmaceutical categories in the coming years. Net sales growth has been driven primarily by data from recent successful outcome trials, the global rollout of more effective doses and the recent launch of a Novartis-sponsored hypertension awareness program in the US. Novartis recently received an approvable letter from the US Food and Drug Administration (FDA) for *Diovan* to treat high-risk heart attack patients, an indication already approved in 27 countries, including the UK. Approval is pending further discussions with the FDA.

Lotrel (+18% US), the No. 1 US fixed combination treatment for hypertension, delivered double-digit net sales growth in 2004, amid an increased focus on the efficacy of antihypertension agents in the US. *Lotrel* has expanded its position as the No. 1 branded combination therapy, a position held since 2002, based on greater awareness of the need for patients to achieve lower blood pressure goals set by national guidelines. *Lotrel*, which is sold only in the US, also benefited from the US hypertension awareness program.

Lamisil (+19%; +14% lc; +23% US), the leading treatment worldwide for fungal nail infections, achieved net sales of more than USD 1 billion for the first time after extending its US market segment leadership position to a high of 72% (IMS Health data as of November 2004). Higher disease awareness in the US and in leading European markets were key growth drivers, with France reporting the highest net sales in Europe.

Elidel (+49%; +47% lc; +36% US), the world's No. 1 branded prescription agent for eczema, outperformed the market segment growth (+54% *Elidel* vs. 7.8% IMS top 16 countries as of October 2004) to deliver excellent net sales. In 2004, the influential UK National Institute for Clinical Excellence (NICE) recommended the use of *Elidel,* which is now available in approximately 90 countries worldwide, for treating appropriate cases of eczema.

Zelnorm/Zelmac (+81%; +80% lc +89% US), a breakthrough therapy for irritable bowel syndrome (IBS) with constipation (IBS-C) and the first and only prescription medicine for chronic idiopathic constipation, reached USD 299 million in net sales. A key driver has been increasing patient and physician awareness of the availability of a medicine to treat these diseases effectively. Results of the ZENSAA study published in 2004 showed the treatment to be highly effective as a repeat treatment for women with IBS and additionally demonstrated dramatic improvements in important quality of life measures. This study was the basis for resubmission in the European Union in October 2004, with a decision expected in 2005. The US Food and Drug Administration (FDA) granted approval in August 2004 for the additional indication of treating chronic idiopathic constipation in both men and women under age 65.

Specialty Medicines

Oncology

Gleevec/Glivec (+45%; +36% lc; +23% US), for all stages of Philadelphia-chromosome positive (Ph+) chronic myeloid leukemia (CML) and certain forms of gastro-intestinal stromal tumors (GIST), continued to grow dynamically amid further penetration of both the CML and GIST markets as well as continued increases in the average daily dose. New data presented at the American Society of Hematology meeting in December demonstrated that most newly diagnosed patients with Ph+ CML receiving 400 mg daily maintained their response to therapy long term. A separate study found patients receiving 800 mg daily had better outcomes compared to patients receiving 400 mg daily. In addition, encouraging data on the use of *Gleevec/Glivec* in the treatment of Ph+ acute lymphoblastic leukemia (ALL) and gliobastoma multiforme (GBM) were presented at major medical meetings in the fourth quarter. The Glivec International Patient Assistance Program is now open in 71 countries, and the combined *Gleevec/Glivec* patient assistance programs are providing treatments to more than 10,000 patients worldwide who otherwise would not have access to this innovative therapy.

Zometa (+21%; +17% lc; US: +10%), the top intravenous bisphosphonate for bone metastases, achieved blockbuster status in 2004 continuing to post solid growth despite challenges related to US Medicare reimbursement policy and increasing competition as well as high penetration rates in breast cancer and myeloma. *Zometa* continued to make progress on increasing the use of intravenous (IV) bisphosphonates in the treatment of prostate and lung cancer patients, two of the most common forms of cancer worldwide.

Femara (+70%; +62% lc; +137% US), a leading therapy for early and advanced breast cancer in postmenopausal women, generated high double-digit growth in 2004. *Femara* has now been approved in 20 countries, including the US, for a new indication as the only post-tamoxifen treatment for early breast cancer based on the landmark MA-17 study, which showed *Femara* significantly increases a woman's chance of staying cancer-free following five years of adjuvant (post-surgery) tamoxifen therapy.

Ophthalmics

Net sales rose 25% (+19% lc) based on a continued strong performance from *Visudyne* (+25%; +20% lc; +15% US), the world's leading treatment for "wet" AMD (age-related macular degeneration), the leading cause of blindness in people over age 50 in developed countries. Improved US Medicare reimbursement for additional lesion types supported US sales growth, while sales in Europe remained strong.

Transplantation

Sales rose 1% (-5% lc) as the *Neoral/Sandimmun* franchise (-1%; -7% lc; -17% US) maintained relatively flat net sales worldwide amid market share gains in the US liver transplant segment and despite an overall slow erosion by generic competition in the US and some other key markets. *Myfortic,* an immunosuppressant used in kidney transplant patients, was launched in over 40 countries, including the US, and continued to gain market share. *Certican,* a novel proliferation signal inhibitor, received European Union Mutual Recognition Procedure review from 10 new EU accession countries and was approved in Australia. Novartis celebrated its 20 years of experience in transplantation in 2004 at the International Society of Transplantation meeting in Vienna.

Consumer Health Division

Net sales rose 10% (+5% lc) to USD 9.8 billion as double-digit sales expansion in US dollars in OTC, Animal Health and Medical Nutrition offset slower growth in Sandoz, Infant & Baby and CIBA Vision. Volume expansion overall in Consumer Health contributed two percentage points to growth, while currencies added five percentage points and aquisitions three percentage points. Price increases, on average, were insignificant.

Sandoz

Sandoz net sales rose 5% (-1% lc) to USD 3.0 billion following an exeptionally strong 2003 performance driven by the launch of the antibiotic *AmoxC* in the US. Competitive pricing pressures also emerged during 2004 especially in the US and Germany.

OTC (Over-The-Counter self-medications)

OTC net sales climbed 11% (+5% lc) to USD 2.0 billion, led by strong performances from key strategic brands, including the smoking cessation product *Nicotinell/Habitrol,* the topical OTC version of the antifungal agent *Lamisil* and the laxatives *Ex-Lax/ Benefiber.* Another key growth driver was the introduction of a new thin-film form of the cold/cough remedies *Triaminic/Thera-Flu,* strategic OTC brands,that melts on the tongue with no need for water.

Animal Health

Animal Health net sales reported a 11% (+5% lc) increase to USD 0.8 billion, supported by double-digit growth in the companion-animal franchise and strong market share gains for new brands such as *Deramaxx* for the treatment of pain and inflammation associated with osteoarthritis in dogs as well as *Milbemax* for intestinal worm control in dogs and cats. Growth from these new products helped to offset the loss of net sales from recently divested products. In the farm animal franchise, the farm fly control product *Agita* supported net sales growth.

Medical Nutrition

Medical Nutrition net sales rose 38% (+31% lc) to USD 1.1 billion, due mainly to the successful completion in February 2004 of the acquisition of the adult medical nutrition business of Mead Johnson from Bristol-Myers Squibb Company. This acquisition added 28 percentage points to Medical Nutrition's net sales growth in 2004. Organic growth was driven by a continued focus on targeting the needs of patients with specific diseases such as cancer and diabetes and on the home-care channel.

Infant & Baby

Infant & Baby net sales grew 6% (+6% lc) to USD 1.4 billion, outpacing industry growth due to the Gerber baby food brand in the US. The packaging conversion to plastic jars continued to boost net sales in the US baby food segment, as did the launch of innovative finger food products for toddlers.

CIBA Vision

CIBA Vision net sales were up 8% (+2% lc) to USD 1.4 billion, supported by ongoing growth of the *DAILIES,* the *NIGHT & DAY* lenses and the lens care product range. CIBA Vision launched its higher oxygen transmissibility, to competitively penetrate the weekly/monthly lens segment.

Operating Income

	Year ended Dec 31, 2004 USD millions	% of net sales	Year ended Dec 31, 2003 USD millions	% of net sales	Change %
Pharmaceuticals	**5 253**	**28.4**	**4 423**	**27.6**	**19**
Sandoz	235	7.7	473	16.3	-50
OTC	351	17.8	309	17.4	14
Animal Health	78	10.3	88	12.9	-11
Medical Nutrition	32	2.9	82	10.1	-61
Infant & Baby	274	19.0	254	18.7	8
CIBA Vision	236	16.7	153	11.7	54
Divisional Management	-25		-39		-36
Consumer Health	**1 181**	**12.1**	**1 320**	**14.9**	**-11**
Corporate income, net	105		146		-28
Total	**6 539**	**23.1**	**5 889**	**23.7**	**11**

Operating income advanced 11% to USD 6.5 billion at a slower rate than net sales due to higher Other Operating Expenses in 2004 leading to an operating margin decline of 0.6 percentage points from 23.7% of net sales in 2003 to 23.1% in 2004.

Pharmaceuticals Division

In Pharmaceuticals, operating income expanded significantly faster than net sales, rising 19% to USD 5.3 billion. This resulted in a margin expansion of 0.8 percentage points to 28.4% of net sales from 27.6% in 2003. An improvement of 0.8 percentage points in Cost of Goods Sold (COGS), mainly from productivity gains and improved product mix, was an important contributor. Marketing & Sales expenses fell 0.2 percentage points to 33.0% based in part on sales-force productivity improvements, particularly in the US. Research & Development expenses rose 13% on investments in the Novartis Institutes for BioMedical Research (NIBR) and late stage clinical trial programs. However, R&D expenses declined 0.4 percentage points to 18.8% as fewer upfront development costs were paid compared to 2003. Other Operating Expenses increased 56% as a result of several factors, including a decline of USD 171 million in hedging gains and lower income from product divestments compared to 2003, which included a one-time gain of USD 178 million from the sale of the *Fioricet/Fiorinal* product range. General & Administrative costs fell to 3.5% of net sales from 3.6% in 2003.

Consumer Health Division

Operating income declined 11% to USD 1.2 billion despite strong expansion in OTC, Animal Health and CIBA Vision. One-off charges of USD 120 million were recorded, which included USD 37 million in restructuring charges and related impairments of property, plant & equipment at Sandoz, a one-time inventory write-down of USD 18 million in Animal Health, one-time costs of USD 14 million associated with the acquisition of Mead Johnson and the creation of a USD 51 million provision in Medical Nutrition to cover legal liabilities related to an investigation by the US Department of Justice in the US enteral pump market. Novartis Nutrition Corporation is currently in the process of negotiating a possible settlement of that portion of the investigation directed against it. Excluding these one-off items, operating income would have declined 1% to USD 1.3 billion and the operating margin would have been 13.3% compared to 14.9% in 2003.

Sandoz

Operating income declined sharply to USD 235 million compared to USD 473 million in 2003, due primarily to the impact of competitive pressures on pricing, particularly in the US and Germany. Another factor was USD 37 million of restructuring charges and related impairments of property, plant & equipment. The operating margin fell to 7.7% compared to 16.3% in 2003.

OTC

Operating income rose 14% to USD 351 million, benefiting from strong volume growth in strategic brands and tight cost control as well as the 2003 impact of non-recurring costs from exiting a Japanese joint venture.

Animal Health

Operating income fell 11% to USD 78 million, due mainly to the negative impact of a one-time inventory write-down of USD 18 million.

Medical Nutrition

Despite productivity gains and product mix improvements, operating income fell 61% to USD 32 million. The decline was due principally to the recording of a provision of USD 51 million to cover legal liabilities related to an investigation by the US Department of Justice in the US enteral pump market, including whether certain US federal criminal statutes have been violated. Novartis Nutrition Corporation is currently in the process of negotiating a possible settlement of that portion of the investigation directed against it. In addition, one-time expenses of USD 14 million were associated with the Mead Johnson acquisition. Excluding these one-off charges operating income would have increased 18% to USD 97 million and the operating margin would have been 8.7% compared to 10.1% in 2003.

Infant & Baby

Operating income rose 8% to USD 274 million as the operating margin improved to 19.0% from 18.7% in 2003.

CIBA Vision

Operating income reached USD 236 million, an increase of 54% over 2003, due mainly to the divestment of loss making activities in late 2003 and improved net sales volumes and product mix. The operating margin increased to 16.7% in 2004 compared to 11.7% in 2003.

Corporate Income & Expense, net

Net Corporate income totaled USD 105 million in 2004, compared to USD 146 million in 2003. The principal reason for the fall was USD 102 million less pension income in 2004 compared to 2003.

Operating Expenses

	Year ended Dec 31, 2004 USD millions	Year ended Dec 31, 2003 USD millions	Change %
Net sales	**28 247**	**24 864**	**14**
Cost of Goods Sold	-6 625	-5 894	12
Marketing & Sales	-8 873	-7 854	13
Research & Development	-4 207	-3 756	12
General & Administration	-1 540	-1 381	12
Other Income & Expense	-463	-90	
Operating income	**6 539**	**5 889**	**11**

Cost of Goods Sold

Cost of Goods Sold rose 12% to USD 6.6 billion in 2004 but fell as a percentage of net sales to 23.5% in 2004 from 23.7% in 2003 due mainly to ongoing productivity improvements and a favorable product mix in Pharmaceuticals.

Marketing & Sales

Marketing & Sales expenses increased 13% to USD 8.9 billion but declined slightly as a percentage of net sales to 31.4% compared to 31.6% in 2003, mainly reflecting the impact of productivity gains in the Pharmaceuticals US sales-force.

Operating and Financial Review

Research & Development

Research & Development expenses rose 12% in 2004 to USD 4.2 billion, reflecting investments in the Novartis Institutes for BioMedical Research in the US, but declined as a percentage of net sales to 14.9% compared to 15.1% in 2003, partly reflecting lower development milestone payments compared to 2003.

General & Administration

General & Administration expenses rose 12% to USD 1.5 billion in 2004 expanding at a slower pace than net sales, leading to a modest improvement as a percentage of net sales to 5.5% compared to 5.6% in 2003.

Other Income & Expense

Other Income & Expense was a net charge of USD 463 million in 2004 compared to USD 90 million in 2003, reflecting a series of factors that included USD 102 million less Corporate pension income, USD 172 million less hedging gains, as well as lower income from product divestments principally related to the USD 178 million gain in 2003 from selling the *Fioricet/Fiorinal* product range and USD 37 million additional impairment and restructuring charges in Sandoz.

Net Income

	Year ended Dec 31, 2004 USD millions	Year ended Dec 31, 2003 USD millions	Change %
Operating income	**6 539**	**5 889**	**11**
Result from associated companies	142	-200	
Financial income, net	227	379	-40
Income before taxes and minority interests	**6 908**	**6 068**	**14**
Taxes	-1 126	-1 008	12
Income before minority interests	**5 782**	**5 060**	**14**
Minority interests	-15	-44	-66
Net income	**5 767**	**5 016**	**15**

Result from associated companies

Associated companies are accounted for using the equity method when Novartis owns between 20% and 50% of the voting shares of these companies. Income from associated companies is mainly derived from the Group's investments in Roche Holding AG and Chiron Corporation. Overall, income from associated companies increased to USD 142 million from an expense of USD 200 million in 2003.

The Group's 42.5% interest in Chiron contributed pre-tax income of USD 33 million compared to USD 134 million in 2003. This reduction was mainly due to manufacturing production issues at a Chiron site in the United Kingdom that prevented Chiron from delivering flu vaccines to the US for the 2004/2005 flu season.

The Group's 33.3% interest in Roche voting shares, which represents a 6.3% interest in the total equity of Roche, generated pre-tax income of USD 97 million compared to a pre-tax loss of USD 354 million in 2003. The 2003 performance was due to Roche's unexpected loss of CHF 4.0 billion in 2002 which was reflected by Novartis as a change in estimate in 2003. The pre-tax income for 2004 reflects an estimate of the Group's share of Roche's 2004 pre-tax income, which is USD 399 million, including a positive prior year adjustment of USD 30 million. This income was reduced by a goodwill and intangible amortization charge of USD 302 million arising from the allocation of the purchase price to property, plant & equipment and intangible assets and goodwill.

A survey of analyst estimates is used to predict the Group's share of the net income of both Roche and Chiron. Any differences between these estimates and actual results will be adjusted in 2005.

Financial income, net

Despite the ongoing low-yield environment, net financial income was USD 227 million in 2004 compared to USD 379 million in 2003. The overall return on net liquidity was 3.4%, compared to 5.2% in the year-ago period.

Taxes

The tax charge of USD 1.1 billion increased by 12% compared to 2003. The Group's effective tax rate (taxes as a percentage of income before tax) was 16.3% in 2004 compared to 16.6% in 2003.

The Group's expected tax rate (weighted average tax rate based on the result before tax of each subsidiary) was 16.8% in 2004 compared to 14.8% in 2003. The Group's effective tax rate is different than the expected tax rate due to the effect of equity accounting in the income statement for associated companies of 0.7 percentage points (2003: 1.9 percentage points) and various adjustments to expenditures and income for tax purposes. See note 6 to the consolidated financial statements for details of the main elements contributing to the difference.

Net income

Net income grew 15% to USD 5.8 billion from USD 5.0 billion in 2003. As a percentage of total net sales, net income rose to 20.4% in 2004 compared to 20.2% in 2003 due mainly to the strong improvement in operating income.

Return on average equity was 18.0% in 2004 (17.1% in 2003).

Earnings per share

Earnings per share rose 16% to USD 2.36 per share in 2004 compared to USD 2.03 per share in the year-ago period, partially benefitting from a reduced number of outstanding shares as a result of the share buy-back programs.

Condensed Consolidated Balance Sheets

	Dec 31, 2004 USD millions	Dec 31, 2003 USD millions	Change USD millions
Total long-term assets	29 858	27 044	2 814
Cash, short-term deposits and marketable securities	14 593	13 259	1 334
Other current assets	10 018	9 014	1 004
Total assets	**54 469**	**49 317**	**5 152**
Total equity	33 783	30 429	3 354
Financial debts	6 855	5 970	885
Other liabilities and minority interests	13 831	12 918	913
Total equity and liabilities	**54 469**	**49 317**	**5 152**

Total long-term assets increased by USD 2.8 billion principally due to the acquisition of Sabex Inc. and the adult medical nutrition business of Mead Johnson as well as translation effects. The Group's equity increased by USD 3.4 billion during 2004 to USD 33.8 billion at December 31, 2004, as a result of net income (USD 5.8 billion), positive translation adjustments (USD 1.1 billion), valuation differences on marketable securities, cash-flow hedges and other items (USD 0.4 billion), offset by the acquisition of treasury shares (USD 1.9 billion) and the dividend payment (USD 2.0 billion). Total financial debts increased by USD 0.9 billion. The valuation differences on available-for-sale marketable securities and deferred cash-flow hedges increased from unrealized gains of USD 81 million at December 31, 2003, to unrealized gains of USD 377 million at December 31, 2004. The year-end debt/equity ratio stabilized at 0.20:1, the same level as in 2003.

Novartis has long-term financial debt principally in the form of bonds. A total of USD 3.2 billion of straight bonds were outstanding at December 31, 2004, compared with USD 3.0 billion at December 31, 2003. For details on the maturity profile of debt, currency and interest rate structure, see note 18 to the consolidated financial statements.

Novartis debt continues to be rated by Standard & Poor's and Moody's as AAA and Aaa for long-term maturities and A1+ and P1 for short-term debt respectively making the Group one of the few non-financial companies worldwide to have attained the highest rating from these two benchmark rating agencies. The Group considers its working capital to be sufficient for its present requirements.

Liquidity and Capital Resources

The following table sets forth certain information about the Group's cash flow and net liquidity for each of the periods indicated.

	2004 USD millions	2003 USD millions
Cash flow from operating activities	6 725	6 652
Cash flow used for investing activities	-3 219	-1 298
Cash flow used for financing activities	-3 124	-5 764
Translation effect on cash and cash equivalents	55	258
Change in cash and cash equivalents	**437**	**-152**
Change in short- and long-term marketable securities	897	869
Change in short- and long-term financial debt	-885	-400
Change in net liquidity	**449**	**317**
Net liquidity at January 1	7 289	6 972
Net liquidity at December 31	**7 738**	**7 289**

Cash flow from operating activities increased by USD 73 million (1%) to USD 6.7 billion. Depreciation, amortization and impairment charges remained at the prior year level of USD 1.4 billion, while current tax payments rose USD 241 million compared to the previous year.

Cash outflow due to investing activities was USD 3.2 billion. A total of USD 1 billion was spent on acquisitions, while investments in property, plant & equipment amounted to USD 1.3 billion. The net payments for acquiring marketable securities was USD 0.8 billion and other net investments accounted for USD 0.1 billion.

Cash flow used for financing activities was USD 3.1 billion, down USD 2.6 billion from 2003. USD 1.9 billion was spent on the acquisition of treasury shares and USD 2.0 billion on dividend payments. USD 0.8 billion was due to the increase in short- and long-term financial debt and a capital inflow from the IPO of Idenix Inc.

Overall liquidity (cash, cash equivalents and marketable securities including financial derivatives) amounted to USD 14.6 billion at December 31, 2004. Net liquidity (liquidity less financial debt) at year-end was USD 7.7 billion, an increase of USD 449 million from December 31, 2003.

Group Free Cash Flow

The Group defines free cash flow as cash flow from operating activities less purchase/sale of property, plant & equipment, intangible and financial assets and dividends paid. Cash effects on acquisition or divestment of subsidiaries, associated companies and minority interests are excluded from free cash flow. The following is a summary of the Group's free cash flow:

	2004 USD millions	2003 USD millions
Cash flow from operating activities	**6 725**	**6 652**
Purchase of property, plant & equipment	-1 269	-1 329
Purchase of intangible assets	-181	-214
Purchase of financial assets	-747	-816
Proceeds from sale of property, plant & equipment	129	92
Proceeds from sale of intangible and financial assets	670	967
Dividends paid to third parties	-1 968	-1 724
Free cash flow	**3 359**	**3 628**

Free cash flow decreased 7% to USD 3.4 billion in 2004 from USD 3.6 billion in 2003.

Group capital expenditure on property, plant & equipment for 2004 amounted to USD 1.3 billion (4.5% of net sales compared to 5.3% of net sales in 2003). This level reflects the continuing investment in production sites as well as Research & Development facilities. The Group expects to maintain capital expenditure investments in 2005 at approximately the same level as the 2004 percentage of net sales and to fund these expenditures with internally generated resources.

Free cash flow is presented as additional information since 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 which 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 and Business Units. Free cash flow of the Divisions and Business Units uses the same definition as for the Group. However no dividends, tax or financial receipts or payments are included in the Division and Business Unit calculation.

The following summarizes the free cash flow by Division/Business Unit:

	2004 USD millions	2003 USD millions
Pharmaceuticals	5 436	4 690
Sandoz	166	146
OTC	306	278
Animal Health	142	91
Medical Nutrition	82	69
Infant & Baby	154	210
CIBA Vision	317	260
Consumer Health Division Management	-39	-20
Dividend payment	-1 968	-1 724
Corporate and other	-1 237	-372
Total	**3 359**	**3 628**

The following summarizes the Group's contractual obligations and other commercial commitments and the effect such 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
Long-term debt	3 416	680	2 676	36	24
Operating leases	926	233	304	143	246
Research & Development commitments					
unconditional	665	285	245	113	22
potential milestone payments	582	91	158	200	133
Purchase commitments					
property, plant & equipment	325	241	66	18	
other assets	57	28	29		
Total contractual cash obligations	**5 971**	**1 558**	**3 478**	**510**	**425**

The Group expects to fund the operating leases and long-term Research & Development and other purchase commitments with internally generated resources.

Special Purpose Entities

The Novartis Group has no unconsolidated special purpose financing or partnership entities. See also note 27 of the consolidated financial statements for a description of the unconsolidated share compensation foundation.

Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA)

The Group defines EBITDA as operating income before depreciation of property, plant & equipment and amortization of intangible assets, including goodwill, and any related impairment charges.

	2004 USD millions	2003 USD millions
Operating income	**6 539**	**5 889**
Depreciation of property, plant & equipment	780	737
Amortization of intangible assets	456	410
Impairments of property, plant & equipment and intangible assets	103	136
Group EBITDA	**7 878**	**7 172**

The breakdown of the Group EBITDA into Divisions/Business Units is as follows:

	EBITDA 2004 USD millions	% of net sales	EBITDA 2003 USD millions	% of net sales
Pharmaceuticals	5 891	31.8	5 072	31.7
Sandoz	606	19.9	787	27.1
OTC	391	19.8	350	19.8
Animal Health	109	14.4	117	17.2
Medical Nutrition	72	6.4	104	12.8
Infant & Baby	330	22.9	307	22.6
CIBA Vision	357	25.3	297	22.7
Consumer Health Division Management and other expenses	-25		-39	
Total Divisions/Business Units	**7 731**	**27.4**	**6 995**	**28.1**
Corporate and other	147		177	
Total Group	**7 878**	**27.9**	**7 172**	**28.8**

Enterprise Value

Enterprise value represents the total amount that shareholders and debt holders have invested in Novartis, less the Group's liquidity. This is the base used by investors in Novartis to measure their EBITDA return.

	Dec 31, 2004 USD millions	Dec 31, 2003 USD millions
Market capitalization	122 576	110 865
Minority interests	138	90
Financial debts	6 855	5 970
Less liquidity	-14 593	-13 259
Enterprise value	**114 976**	**103 666**
Enterprise value/EBITDA	**14.6**	**14.5**

Value Added Statement

A total of 46% of the revenue from net sales was used to purchase goods and services from our suppliers. Of the Net Value Added of USD 14.9 billion, 47% was paid either directly or indirectly to the employees, 26% was retained in the business for future expansion and 14% was paid to public authorities and financial institutions. Dividends paid to shareholders represented 13% of the Net Value Added.

Origin of value added

	2004 USD millions	2004 % of net sales	2003 % of net sales
Net sales	**28 247**	**100**	**100**
Change in inventory and own manufactured items	212	0.7	1.5
	28 459	**100.7**	**101.5**
Services bought from third parties:			
Material costs	-4 819	-17.1	-16.9
Other operating expenses	-8 262	-29.2	-30.1
Gross value added	**15 378**	**54.4**	**54.5**
Depreciation, amortization and impairments on property, plant & equipment and intangible assets	-1 339	-4.7	-5.1
Financial income	836	3.0	5.9
Net Value Added	**14 875**	**52.7**	**55.3**

Exchange Rate Exposure and Risk Management

Novartis transacts its business in many currencies other than the US dollar, its reporting currency. As a result of the Group's foreign currency exposure, exchange rate fluctuations have a significant impact in the form of both translation risk and transaction risk on its income statement. Translation risk is the risk that the Group's consolidated financial statements for a particular period or as of a certain date may be affected by changes in the prevailing rates of the various currencies of the reporting subsidiaries against the US dollar. Transaction risk is the risk that the value of transactions executed in currencies other than the subsidiary's measurement currency may vary according to currency fluctuations.

Quantitative and Qualitative Disclosures about Market Risk

Growth and currency contributions

	Local currencies % 2004	Local currencies % 2003	USD % 2004	USD % 2003
Net sales	9	11	14	19
Operating income	6	1	11	16
Net income	10	-8	15	6

Net sales and operating costs by currencies

	Net sales % 2004	Net sales % 2003	Costs % 2004	Costs % 2003
USD	43	43	37	41
EUR	26	26	23	23
CHF	3	4	15	17
JPY	8	8	5	4
Other	20	19	20	15

Liquid funds and financial debt by currencies

	Liquid funds % 2004	Liquid funds % 2003	Financial debt % 2004	Financial debt % 2003
USD	59	50	21	28
EUR	13	15	36	29
CHF	25	32	40	40
JPY		1		
Other	3	2	3	3

On average in 2004, the US dollar was weaker against the Swiss franc, Japanese yen, Euro and British pound than in 2003. The total positive currency effect on net sales growth and on operating income growth was 5 percentage points.

Market risk: Novartis is exposed to market risk, primarily related to foreign exchange, 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 rates and market rates of investments of liquid funds. 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. 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 exchange rates: The Group uses the US dollar as its reporting currency. As a result, the Group is exposed to foreign 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 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 foreign countries are long-term investments. Their fair value changes through movements of the currency exchange rates. In the very long term, however, the difference in the inflation rate should match the exchange rate movement, so that the market value of the real assets abroad will compensate for the change due to currency movements. For this reason, the Group only in exceptional cases hedges the net investments in foreign subsidiaries.

Commodities: The Group has only a very limited exposure to price risk related to anticipated purchases of certain commodities used as raw materials. 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 materiality levels. Accordingly, it does not enter into significant commodity futures, forward and option contracts to manage fluctuations in prices of anticipated purchases.

Interest rates: The Group manages its net exposure to interest rate risk through the proportion of fixed rate debt and variable rate debt in its total 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 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.

Management summary: Use of derivative financial instruments did not have a material impact on the Group's financial position at December 31, 2004 and 2003 or its results of operations for the years ended December 31, 2004 and 2003.

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 interest-rate-sensitive financial instruments, the loss in pre-tax earnings of its foreign currency price-sensitive derivative financial instruments as well as the potential ten-day loss of its equity holdings. It uses a ten-day period because of an assumption that not all positions could be undone in a single day given the size of the positions. The VAR computation includes the Group's 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 excluded from 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 currency rate movements over a 60-day period for the calculation of VAR amounts.

The estimated potential ten-day loss in pre-tax earnings from the Group's foreign currency instruments, the estimated potential ten-day loss on its equity holdings, and the estimated potential ten-day loss in fair value of its interest rate sensitive instruments, primarily debt and investments of liquid funds under normal market conditions, as calculated in the VAR model, are the following:

	Dec 31, 2004 USD millions	Dec 31, 2003 USD millions
Instruments sensitive to foreign currency rates	382	244
Instruments sensitive to equity market movements	40	67
Instruments sensitive to interest rates	118	112
All instruments	495	356

The average, high, and low VAR amounts for 2004 are as follows:

	Average USD millions	High USD millions	Low USD milllions
Instruments sensitive to foreign currency rates	342	512	214
Instruments sensitive to equity market movements	53	84	37
Instruments sensitive to interest rates	177	501	108
All instruments	495	863	326

The VAR computation is a risk analysis tool designed to statistically estimate the maximum probable ten-day loss from adverse movements in foreign currency 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. For these calculations, the Group uses the worst movements during a period of six months over the past 20 years in each category. For 2004 and 2003, the worst-case-loss scenario was configured as follows:

	Dec 31, 2004 USD millions	Dec 31, 2003 USD millions
Bond portfolio	115	200
Money market and linked financial instruments	184	118
Equities	98	287
Foreign exchange risks	231	232
Total	**628**	**837**

In the Group's risk analysis, Novartis considered this worst-case scenario acceptable inasmuch as it could reduce the income, but would not endanger the solvency and/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.

The major financial risks facing the Group are managed centrally by Group Treasury. Only residual risks and some currency risks are managed in the subsidiaries. However the collective amount of the residual risks is below 10% of the global risks.

Novartis has a written Treasury Policy and has implemented a strict segregation of front office and back office controls. The Group does regular reconciliations of its positions with its counter-parties. In addition external audits of the Treasury function are performed at regular intervals.

Summary of Quarterly Financial Data for 2004 and 2003

USD millions unless indicated otherwise	Q1	Q2	Q3	Q4	2004	Q1	Q2	Q3	Q4	2003
Income Statement										
Net sales	**6 639**	**6 973**	**7 057**	**7 578**	**28 247**	**5 721**	**6 203**	**6 210**	**6 730**	**24 864**
Cost of Goods Sold	-1 536	-1 594	-1 613	-1 882	-6 625	-1 363	-1 423	-1 500	-1 608	-5 894
Gross profit	**5 103**	**5 379**	**5 444**	**5 696**	**21 622**	**4 358**	**4 780**	**4 710**	**5 122**	**18 970**
Marketing & Sales	-2 060	-2 204	-2 109	-2 500	-8 873	-1 833	-1 995	-1 850	-2 176	-7 854
Research & Development	-947	-964	-1 062	-1 234	-4 207	-843	-943	-878	-1 092	-3 756
General & Administration	-355	-372	-361	-452	-1 540	-306	-334	-338	-403	-1 381
Other income & expense	-247	-45	-195	24	-463	-25	-45	-175	155	-90
Operating income	**1 494**	**1 794**	**1 717**	**1 534**	**6 539**	**1 351**	**1 463**	**1 469**	**1 606**	**5 889**
Result from associated companies	31	-5	111	5	142	-246	9	25	12	-200
Financial income, net	28	98	35	66	227	180	119	96	-16	379
Income before taxes and minority interests	**1 553**	**1 887**	**1 863**	**1 605**	**6 908**	**1 285**	**1 591**	**1 590**	**1 602**	**6 068**
Taxes	-264	-321	-317	-224	-1 126	-219	-270	-271	-248	-1 008
Minority interests	4	-17	1	-3	-15	-3	-5	-42	6	-44
Net income	**1 293**	**1 549**	**1 547**	**1 378**	**5 767**	**1 063**	**1 316**	**1 277**	**1 360**	**5 016**
EPS (USD)	0.52	0.63	0.63	0.57	2.36	0.43	0.53	0.52	0.55	2.03
Net sales by Division/Business Unit										
Pharmaceuticals	**4 310**	**4 572**	**4 646**	**4 969**	**18 497**	**3 609**	**3 991**	**4 041**	**4 379**	**16 020**
Sandoz	719	737	722	867	3 045	761	702	675	768	2 906
OTC	498	467	478	532	1 975	401	429	443	499	1 772
Animal Health	168	185	194	209	756	157	182	163	180	682
Medical Nutrition	258	289	289	285	1 121	190	211	206	208	815
Infant & Baby	349	367	371	354	1 441	307	357	349	348	1 361
CIBA Vision	337	356	357	362	1 412	296	331	333	348	1 308
Consumer Health	**2 329**	**2 401**	**2 411**	**2 609**	**9 750**	**2 112**	**2 212**	**2 169**	**2 351**	**8 844**
Total net sales	**6 639**	**6 973**	**7 057**	**7 578**	**28 247**	**5 721**	**6 203**	**6 210**	**6 730**	**24 864**
Operating income by Division/Business Unit										
Pharmaceuticals	**1 246**	**1 369**	**1 387**	**1 251**	**5 253**	**1 100**	**1 012**	**1 137**	**1 174**	**4 423**
Sandoz	84	125	4	22	235	112	145	94	122	473
OTC	105	83	105	58	351	52	82	82	93	309
Animal Health	19	22	1	36	78	23	17	21	27	88
Medical Nutrition	20	21	30	-39	32	20	16	18	28	82
Infant & Baby	60	70	76	68	274	45	73	70	66	254
CIBA Vision	51	67	67	51	236	29	60	48	16	153
Divisional Management costs	-4	-4	-5	-12	-25	-4	-6	-7	-22	-39
Consumer Health	**335**	**384**	**278**	**184**	**1 181**	**277**	**387**	**326**	**330**	**1 320**
Corporate income & expense, net	-87	41	52	99	105	-26	64	6	102	146
Total operating income	**1 494**	**1 794**	**1 717**	**1 534**	**6 539**	**1 351**	**1 463**	**1 469**	**1 606**	**5 889**

USD millions unless indicated otherwise	Q1	Q2	Q3	Q4	2004	Q1	Q2	Q3	Q4	2003

Summary of Financial Data 1997 2004 (since formation of Novartis)

USD millions unless indicated otherwise		2004	2003	2002	2001	2000	1999	1998	1997
Novartis Group net sales		**28 247**	**24 864**	**20 877**	**18 762**	**20 997**	**21 496**	**21 863**	**21 503**
Change relative to preceding year	%	13.6	19.1	11.3	-10.6	-2.3	-1.7	1.7	
Pharmaceuticals Division net sales		18 497	16 020	13 528	11 965	10 744	10 157	10 000	9 732
Change relative to preceding year	%	15.5	18.4	13.1	11.4	5.8	1.6	2.8	
Consumer Health Division net sales		9 750	8 844	7 349	6 797	6 242	6 621	6 706	6 644
Change relative to preceding year	%	10.2	20.3	8.1	8.9	-5.7	-1.3	0.9	
Novartis Group net sales continuing activities		**28 247**	**24 864**	**20 877**	**18 762**	**16 986**	**16 778**	**16 706**	**16 376**
Change relative to preceding year	%	13.6	19.1	11.3	10.5	1.2	0.4	2.0	
Discontinued Agribusiness Division net sales						4 011	4 718	5 157	5 127
Operating income		**6 539**	**5 889**	**5 092**	**4 325**	**4 684**	**4 868**	**4 772**	**4 612**
Change relative to preceding year	%	11.0	15.6	17.7	-7.7	-3.8	2.0	3.5	
As a % of net sales	%	23.1	23.7	24.4	23.1	22.3	22.6	21.8	21.4
As a % of average equity	%	20.4	20.1	19.1	18.2	20.4	21.1	23.2	23.7
As a % of average net operating assets	%	26.5	26.4	26.4	28.1	32.1	31.8	33.5	31.0
Operating income (excluding discontinued Agribusiness Division)		**6 539**	**5 889**	**5 092**	**4 325**	**4 000**	**4 437**	**4 036**	**3 688**
Change relative to preceding year	%	11.0	15.7	17.7	8.1	-9.8	9.9	9.4	
As a % of net sales excluding discontinued Agribusiness Division	%	23.1	23.7	24.4	23.1	23.5	26.4	24.2	22.5
Net income (including discontinued Agribusiness Division)		**5 767**	**5 016**	**4 725**	**3 836**	**3 822**	**4 401**	**4 145**	**3 592**
Change relative to preceding year	%	15.0	6.2	23.2	0.4	-13.2	6.2	15.4	
As a % of net sales	%	20.4	20.2	22.6	20.4	18.2	20.5	19.0	16.7
As a % of average equity	%	18.0	17.1	17.7	16.1	16.7	19.1	20.2	18.5
Dividends of Novartis AG[(1)]		**2 246**	**1 968**	**1 724**	**1 367**	**1 268**	**1 259**	**1 215**	**1 130**
Cash flow from operating activities		**6 725**	**6 652**	**5 229**	**4 358**	**4 538**	**4 597**	**4 037**	**3 148**
Change relative to preceding year	%	1.1	27.2	20.0	-4.0	-1.3	13.9	28.2	
As a % of net sales	%	23.8	26.8	25.0	23.2	21.6	21.4	18.5	14.6
Free cash flow		**3 359**	**3 628**	**2 958**	**2 453**	**2 678**	**2 350**	**1 809**	**844**
Change relative to preceding year	%	-7.4	22.7	20.6	-8.4	13.9	29.9	114.3	
As a % of net sales	%	11.9	14.6	14.2	13.1	12.8	10.9	8.3	3.9
Investment in property, plant & equipment		**1 269**	**1 329**	**1 068**	**801**	**803**	**914**	**1 143**	**1 074**
Change relative to preceding year	%	-4.5	24.4	33.3	-0.2	-12.1	-20.1	6.4	
As a % of net sales	%	4.5	5.3	5.1	4.3	3.8	4.2	5.2	5.0
Depreciation of property, plant & equipment		**780**	**737**	**592**	**557**	**706**	**842**	**801**	**786**
As a % of net sales	%	2.8	3.0	2.8	3.0	3.4	3.9	3.7	3.7
Research & development expenditure		**4 207**	**3 756**	**2 843**	**2 528**	**2 764**	**2 829**	**2 694**	**2 579**
As a % of net sales	%	14.9	15.1	13.6	13.5	13.2	13.2	12.3	12.0
Pharmaceuticals research & development expenditure		**3 480**	**3 079**	**2 355**	**2 088**	**1 963**	**1 895**	**1 799**	**1 813**
As a % of Pharmaceuticals Division net sales	%	18.8	19.2	17.4	17.5	18.3	18.7	18.0	18.6

USD millions unless indicated otherwise		2004	2003	2002	2001	2000	1999	1998	1997
Total assets		**54 469**	**49 317**	**45 025**	**39 763**	**35 507**	**41 134**	**40 743**	**36 747**
Liquidity		14 593	13 259	12 542	13 194	12 659	14 187	14 259	12 662
Equity		33 783	30 429	28 269	25 161	22 492	23 363	22 751	18 357
Debt/equity ratio		0.20:1	0.20:1	0.20:1	0.21:1	0.16:1	0.27:1	0.28:1	0.41:1
Current ratio		2.2:1	2.4:1	2.5:1	2.4:1	2.8:1	2.0:1	2.0:1	2.0:1
Net operating assets		**26 182**	**23 230**	**21 363**	**17 197**	**13 634**	**15 543**	**15 091**	**13 375**
Change relative to preceding year	%	12.7	8.7	24.2	26.1	-12.3	3.0	12.8	
As a % of net sales	%	92.7	93.4	102.3	91.7	64.9	72.3	69.0	62.2
Personnel costs		**6 984**	**6 252**	**5 128**	**4 362**	**4 635**	**4 789**	**4 892**	**5 033**
As a % of net sales	%	24.7	25.1	24.6	23.2	22.1	22.3	22.4	23.4
Number of employees at year end	number	**81 392**	**78 541**	**72 877**	**71 116**	**67 653**	**81 854**	**82 449**	**87 239**
Net sales per employee (average)	USD	353 241	318 041	282 041	266 809	252 879	260 684	254 715	242 003

(1) 2004: Proposal to the shareholder's meeting. Covers in all years amounts paid to third party shareholders.

Equity Strategy and Share Information

Novartis share price increases 2% in Swiss Francs (ADSs increase 10% in USD) in 2004

Global equity capital markets faced a challenging environment in 2004 following a recovery in 2003. The Swiss Market Index (SMI) increased slightly by 3.7% in 2004, while the Morgan Stanley World Pharmaceutical Index fell 1% compared to 2003. The Novartis share price performed better when compared to most of its pharmaceutical peers, and when measured in USD outpaced the MSCI Pharmaceutical Index by 11% percentage points but rose slightly less than the SMI when measured in Swiss Francs. The Novartis share price closed the year at CHF 57.30 on December 31, 2004, compared to CHF 56.15 at the start of the year resulting in a 2% increase. The ADS performance in the US on the other hand showed a significant increase of 10% also as a result of exchange rate benefits. The market capitalization of Novartis amounted to USD 123 billion on December 31, 2004, compared to USD 111 billion at the end of 2003.

Dividend continuously increased since 1996

The Board is proposing a 5% increase in the dividend payment for 2004 to CHF 1.05 per share (2003: CHF 1.00) for approval at the Annual General Meeting. This represents the eighth consecutive increase in the dividend paid per share since the formation of Novartis in late 1996. If the 2004 dividend proposal is approved by shareholders, dividends paid out on the outstanding shares will amount to USD 2.2 billion (2003: USD 2.0 billion), resulting in a payout ratio of 39% (2003: 39%). Based on the 2004 year-end share price of CHF 57.30, the Novartis dividend yield is 1.8% (2003: 1.8%). The dividend payment date for 2004 will be March 4, 2005. With the exception of 291 million treasury shares, all shares issued are dividend bearing.

Fourth share repurchase program initiated

In August 2004, Novartis announced the completion of the third share-repurchase program and the start of a fourth program to repurchase shares via a second trading line on the SWX Swiss Exchange for approximately USD 2.4 billion (CHF 3.0 billion). In 2004, a total of 22.8 million shares were repurchased for USD 1.0 billion to complete the third repurchase program. Since the start of the fourth program, a total of 15.2 million shares have been repurchased for USD 0.7 billion. Overall in 2004, a total of 41 million shares have been repurchased for USD 1.9 billion, which includes shares bought through the repurchase programs and additional shares bought on the first trading line. A proposal will be made af the Annual General Meeting to reduce the share capital by 38.0 million shares bought through the purchase programs on the second trading line.

Direct share purchase plan

Since 2001 Novartis has been offering US investors the ADS Direct Plan, which provides investors in the United States an easy and inexpensive way of directly purchasing Novartis stock and of reinvesting dividends. This plan holds Novartis American Depositary Shares (ADSs) which are listed on the New York Stock Exchange under the trading symbol NVS. At the end of 2004, the US Direct Share Purchase Plan had 332 participants. Since September 1, 2004 Novartis also offers a Direct Share Purchase Program to investors residing in Switzerland, Liechtenstein, France and the United Kingdom, which is the first of its kind in Europe. With this plan Novartis offers an easy and inexpensive way of directly purchasing Novartis registered shares and of depositing them free of charge with SAS SIS Aktienregister AG. As of December 31, 2004, a total of 8862 shareholders were or had been enrolled in this program.

Information on Novartis shares

You can find further information on the Internet at **http://www.novartis.com/investors**.

Chart of Novartis 2004 share price movement

Key Novartis share data

	2004	2003
Issued shares	**2 777 210 000**	**2 801 470 000**
Of which treasury shares		
Reserved for employee share-based compensation	41 569 718	41 569 718
Not specifically reserved	308 830 206	292 131 622
Treasury shares	**350 399 924**	**333 701 340**
Outstanding shares at December 31	**2 426 810 076**	**2 467 768 660**
Average number of shares outstanding	**2 447 954 717**	**2 473 522 565**

Per share information[1]

(in USD except dividend which is in CHF)

	2004	2003
Basic earnings per share	2.36	2.03
Diluted earnings per share	2.34	2.00
Operating cash flow	2.75	2.69
Year end equity	13.92	12.33
Dividend[2] (CHF)	1.05	1.00

	2004	2003

(1) Calculated on average number of shares outstanding except year end equity per share.

(2) 2004: Proposal to shareholders' meeting.

Key ratios December 31

	2004	2003
Price/earnings ratio[1]	21.4	22.1
Enterprise value/EBITDA	14.6	14.5
Dividend yield (%)	1.8	1.8

(1) Based on share price at the year end.

Key data on American Depositary Shares (ADSs) issued in the US

	2004	2003
Year end ADS price (USD)	50.54	45.89
ADSs outstanding[1]	196 669 080	150 886 907

(1) The depositary, JP Morgan Chase Bank, holds one Novartis AG share for every American Depositary Share (ADS) issued.

Share price (CHF)

	2004	2003
Year end	57.30	56.15
Highest	59.95	56.15
Lowest	52.10	46.05
Year-end market capitalization (USD millions)	**122 576**	**110 865**

Trading

Novartis shares are listed in Switzerland and traded on virt-x, an exchange for pan-European blue chip shares. The American Depositary Shares (ADSs) are listed on the New York Stock Exchange. Novartis shares are also traded on the International Retail Service (IRS) of the London Stock Exchange.

Symbols

	virt-x (Reuters/Bloomberg)	IRS (Bloomberg)	NYSE (Reuters/Bloomberg)
Shares	NOVN.VX/NOVN VX	NOV LN	
ADSs			NVS

Widely Dispersed Shareholdings

Novartis shares are widely held. As of December 31, 2004, Novartis had approximately 171 000 shareholders (2003: 174 000) registered in its share register. Based on the Novartis AG share register approximately 58% (2003: 62%) of the Novartis AG shares that are registered by name are held in Switzerland and 30% are held by approximately 1 100 holders in the USA (2003: 26% and 1 100 holders, respectively). A total of 24% of the Novartis AG shares are not entered in the share register. The above numbers are not representative of the actual number of beneficial owners located in Switzerland or the US since certain shares are held by brokers or other nominees.

Limitation of registration, voting rights and major shareholders

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. The Board of Directors may allow exemptions from the limitation for registration in the share register.

Based upon information available to the Group, shareholders owning 2% or more of Novartis AG's capital at December 31 are listed in the table below:

	% holding of share capital December 31, 2004	% holding of share capital December 31, 2003
Novartis Foundation for Employee Participation, Basel	3.1	3.3
Emasan AG, Basel	3.2	3.1

Novartis Group Consolidated Financial Statements

Consolidated Income Statements

for the years ended December 31, 2004 and 2003

	Notes	2004 USD millions	2003 USD millions
Net sales	3/4	**28 247**	**24 864**
Cost of Goods Sold		-6 625	-5 894
Gross profit		**21 622**	**18 970**
Marketing & Sales		-8 873	-7 854
Research & Development		-4 207	-3 756
General & Administration		-1 540	-1 381
Other income & expense		-463	-90
Operating income	3/4	**6 539**	**5 889**
Result from associated companies	10	142	-200
Financial income, net	5	227	379
Income before taxes and minority interests		**6 908**	**6 068**
Taxes	6	-1 126	-1 008
Income before minority interests		**5 782**	**5 060**
Minority interests		-15	-44
Net income		**5 767**	**5 016**
Earnings per share (USD)	7	2.36	2.03
Diluted earnings per share (USD)	7	2.34	2.00

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Balance Sheets

at December 31, 2004 and 2003

	Notes	2004 USD millions	2003 USD millions
Assets			
Long-term assets			
Property, plant & equipment	8	8 497	7 597
Intangible assets	9	5 629	4 708
Investments in associated companies	10	7 450	6 848
Deferred taxes	11	2 189	2 401
Financial and other assets	12	6 093	5 490
Total long-term assets		**29 858**	**27 044**
Current assets			
Inventories	13	3 558	3 346
Trade accounts receivable	14	4 851	4 376
Other current assets	15	1 609	1 292
Marketable securities & financial derivatives	16	8 510	7 613
Cash and cash equivalents		6 083	5 646
Total current assets		**24 611**	**22 273**
Total assets		**54 469**	**49 317**
Equity and liabilities			
Equity			
Share capital	17	1 008	1 017
Treasury shares	17	-127	-121
Reserves		32 902	29 533
Total equity		**33 783**	**30 429**
Minority interests		**138**	**90**
Liabilities			
Long-term liabilities			
Financial debts	18	2 736	3 191
Deferred taxes	11	3 384	3 138
Provisions and other long-term liabilities	19	3 350	3 149
Total long-term liabilities		**9 470**	**9 478**
Short-term liabilities			
Trade accounts payable		2 020	1 665
Financial debts	20	4 119	2 779
Other short-term liabilities	21	4 939	4 876
Total short-term liabilities		**11 078**	**9 320**
Total liabilities		**20 548**	**18 798**

	Notes	2004 USD millions	2003 USD millions
Total equity, minority interests and liabilities		**54 469**	**49 317**

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Cash Flow Statements

for the years ended December 31, 2004 and 2003

	Notes	2004 USD millions	2003 USD millions
Net income		**5 767**	**5 016**
Reversal of non-cash items			
Minority interests		15	44
Taxes		1 126	1 008
Depreciation, amortization and impairments on			
Property, plant & equipment		796	768
Intangible assets		543	515
Financial assets		49	103
Result from associated companies		-142	200
Gains on disposal of property, plant & equipment, intangible and financial assets		-223	-325
Net financial income		-227	-379
Dividends received		12	12
Interest and other financial receipts		379	501
Interest and other financial payments		-273	-240
Receipts from associated companies		73	62
Taxes paid		-1 083	-842
Cash flow before working capital and provision changes		**6 812**	**6 443**
Restructuring payments and other cash payments out of provisions		-219	-248
Change in net current assets and other operating cash flow items	22	132	457
Cash flow from operating activities		**6 725**	**6 652**
Investment in property, plant & equipment		-1 269	-1 329
Proceeds from disposals of property, plant & equipment		129	92
Purchase of intangible assets		-181	-214
Proceeds from disposals of intangible assets		184	335
Purchase of financial assets		-747	-816
Proceeds from disposals of financial assets		486	632
Acquisition of additional interests in associated companies			-120
Acquisition/divestment of businesses	23	-1 031	-272
Acquisition of minorities			-10
Proceeds from disposals of marketable securities		6 525	10 511
Payments for acquiring marketable securities		-7 315	-10 107
Cash flow used for investing activities		**-3 219**	**-1 298**
Acquisition of treasury shares		-1 874	-273
Dividend payments and cash contributions to minorities		-25	-31
Proceeds from issuance of share capital to third parties by subsidiaries		60	
Increase in long-term financial debts		14	18
Repayment of long-term financial debts		-15	-31
Repayment of put and call options on Novartis shares			-3 458
Change in short-term financial debts		684	-265
Dividends paid		-1 968	-1 724
Cash flow used for financing activities		**-3 124**	**-5 764**
Net effect of currency translation on cash and cash equivalents		55	258
Net change in cash and cash equivalents		**437**	**-152**
Cash and cash equivalents at the beginning of the year		**5 646**	**5 798**

	Notes	2004 USD millions	2003 USD millions
Cash and cash equivalents at end of the year		**6 083**	**5 646**

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Statement of Changes in Equity

for the years ended December 31, 2004 and 2003

	Notes	Share premium USD millions	Retained earnings USD millions	Fair value adjustments on marketable securities not recorded in net income USD millions	Fair value of deferred cash flow hedges not recorded in net income USD millions	Cumulative translation differences not recorded in net income USD millions	Total reserves USD millions	Share capital USD millions	Treasury shares USD millions	Total equity USD millions
January 1, 2003		**2 565**	**25 848**	**-299**	**113**	**-856**	**27 371**	**1 025**	**-127**	**28 269**
Fair value adjustments on financial instruments	24a			332	-106		226			226
Associated companies' equity movements	24b		-31	41			10			10
Translation effects						2 363	2 363			2 363
Net income			5 016				5 016			5 016
Total of components of comprehensive income			**4 985**	**373**	**-106**	**2 363**	**7 615**			**7 615**
Dividends	24c		-1 724				-1 724			-1 724
Acquisition of treasury shares	24d		-271				-271		-2	-273
Repayment of call options on Novartis shares	24e	-1 848	92			-435	-2 191			-2 191
Repayment of put options on Novartis shares	24f	-541	-603			-123	-1 267			-1 267
Reduction in share capital	24g							-8	8	
Total of other equity movements		**-2 389**	**-2 506**			**-558**	**-5 453**	**-8**	**6**	**-5 455**
December 31, 2003		**176**	**28 327**	**74**	**7**	**949**	**29 533**	**1 017**	**-121**	**30 429**
Fair value adjustments on financial instruments	24a			297	-27		270			270
Associated companies' equity movements	24b		24	26			50			50
Translation effects	24h					1 099	1 099			1 099
Net income			5 767				5 767			5 767
Total of components of comprehensive income			**5 791**	**323**	**-27**	**1 099**	**7 186**			**7 186**
Dividends	24c		-1 968				-1 968			-1 968
Acquisition of treasury shares	24d		-1 849				-1 849		-15	-1 864
Reduction in share capital	24g							-9	9	
Transfer to share premium	24i	26	-26							
Total of other equity movements		**26**	**-3 843**				**-3 817**	**-9**	**-6**	**-3 832**
December 31, 2004		**202**	**30 275**	**397**	**-20**	**2 048**	**32 902**	**1 008**	**-127**	**33 783**

The accompanying notes form an integral part of the consolidated financial statements.

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Notes to the Novartis Group Consolidated Financial Statements

1. Accounting Policies

The Novartis Group (Group or Novartis) consolidated financial statements are prepared in accordance with the historical cost convention except for the revaluation to market value of certain financial assets and liabilities and comply with the International Financial Reporting Standards (IFRS) formulated by the International Accounting Standards Board (IASB) and with International Accounting Standards (IAS) and interpretations formulated by its predecessor organization the International Accounting Standards Committee (IASC), as well as with the following significant accounting policies.

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities as well as 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 financial statements include all companies which Novartis AG, Basel, directly or indirectly controls (generally over 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 its activities. As permitted by IFRS, equity compensation and post-employment plans are not consolidated.

Investments in associated companies (defined generally as investments of between 20% and 50% in a company's voting shares) and joint ventures are accounted for by using the equity method with the Group recording its share of the associated company's net income and equity.

Principles of consolidation: The annual closing date of the individual financial statements is December 31. The financial statements of consolidated companies operating in high-inflation countries are adjusted to eliminate the impact of high inflation.

The purchase method of accounting is used for acquired businesses. Companies acquired or disposed of during the year are included in the consolidated financial statements from the date of acquisition or up to the date of disposal.

The Group was formed on December 20, 1996 when all assets and liabilities of Sandoz AG and Ciba-Geigy AG were transferred by universal succession to Novartis AG. The uniting of interests method was used to account for this transaction. If it were undertaken today, the merger would require a different accounting treatment.

Intercompany income and expenses, including unrealized gross profits from internal Novartis transactions and intercompany receivables and payables have been eliminated.

Reclassification: Certain prior year balances have been reclassified to conform with the current year presentation.

Revenue and expense recognition: Revenue is recognized when title and risk of loss for the products is transferred to the customer. Provisions for rebates and discounts granted to government agencies, wholesalers, 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. Cash discounts are offered to customers to encourage prompt payment. They are recorded as a reduction of revenue at the time of invoicing. Shelf-stock adjustments are granted to customers based on the existing inventory of a customer following decreases in the invoice or contract price of the related product. Based on estimated inventory levels, provisions for shelf-stock adjustments are determined at the time of the price decline or at the point of sale if a price decline is reasonably estimable. Where there is a historical experience of Novartis agreeing to customer returns, Novartis records a reserve for estimated sales returns by applying historical experience of customer returns to the amounts invoiced and the amount of returned products to be destroyed versus products that can be placed back in inventory for resale.

Expenses for research and service contracts in progress are recognized based on their percentage of completion.

Foreign currencies: The consolidated financial statements of Novartis are expressed in US dollars ("USD"). With effect from July 1, 2003, the measurement currency of certain Swiss and foreign finance companies used for preparing the financial statements has been changed to US dollars from the respective local currency. This reflects changes in these entities' cash flows and transactions now being primarily denominated in US dollars. Generally, the local currency is used as the measurement currency for other entities. In the respective entity financial statements, monetary assets and liabilities denominated in foreign currencies are translated at the rate prevailing 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 subsidiary's income statement.

Income, expense and cash flows of the consolidated companies have been translated into US dollars using average exchange rates. The balance sheets are translated using the year end exchange rates. Translation differences arising from movements in the exchange rates used to translate equity and long-term intercompany financing transactions relating to the net investment in a foreign entity and net income are allocated to reserves.

Derivative financial instruments and hedging: Derivative financial instruments are initially recognized in the balance sheet at cost and subsequently remeasured to their fair value.

The method of recognizing the resulting gain or loss is dependent on whether the derivative contract is designed to hedge a specific risk and qualifies for hedge accounting. On the date a derivative contract is entered into, the Group designates derivatives which 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 which are fair value hedges and that are highly effective are recognized in the income statement, along with any changes in the fair value of the hedged asset or liability that is attributable to the hedged risk. Changes in the fair value of derivatives in cash flow hedges are recognized in equity. Where the forecasted transaction or firm commitment results in the recognition of an asset or liability, the gains and losses previously included in equity are included in the initial measurement of the asset or liability. Otherwise, amounts recorded in equity are transferred to the income statement and classified as revenue or expense in the same period in which the forecasted transaction affects the income statement.

Hedges of net investments in foreign entities are accounted for similarly to cash flow hedges. The Group hedges certain net investments in foreign entities with foreign currency borrowings. All foreign exchange gains or losses arising on translation are recognized in equity and included in cumulative translation differences.

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 the 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 equity at that time remains in equity and is recognized in the income statement, when the committed or forecasted transaction is ultimately recognized in the income statement. However, if a forecasted or committed transaction is no longer expected to occur, the cumulative gain or loss that was recognized in equity is immediately transferred to the income statement.

The purpose of hedge accounting is to match the impact of the hedged item and the hedging instrument in the income statement. To qualify for hedge accounting, the hedging relationship must meet several strict conditions with respect to documentation, probability of occurrence, hedge effectiveness and reliability of measurement. At the inception of the transaction the Group documents the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. This process includes linking all derivatives designated as hedges to specific assets and liabilities or to specific firm commitments or forecasted transactions. The Group also documents its assessment, both at the hedge inception and on an ongoing basis, as to whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

Property, plant & equipment: Property, plant & equipment have been valued at cost of acquisition or production cost and are depreciated on a straight-line basis to the income statement over the following estimated useful lives:

Buildings	20 to 40 years
Machinery and equipment	7 to 20 years
Furniture and vehicles	5 to 10 years
Computer hardware	3 to 7 years

Land is valued at acquisition cost except if held under long-term lease arrangements, when it is amortized over the life of the lease. Land held under long-term lease agreements relates to upfront payments to lease land on which certain of the Group's buildings are located. Additional costs which extend the useful life of property, plant & equipment are capitalized. Financing costs associated with the construction of property, plant & equipment are not capitalized. Property, plant & equipment which are financed by leases giving Novartis substantially all the risks and rewards of ownership are capitalized at the lower of the fair value of leased property and the present value of minimum lease payments at the inception of the lease, and depreciated in the same manner as other property, plant & equipment over the shorter of the lease term or their useful life.

Intangible assets: Intangible assets are valued at cost and reviewed periodically for any diminution in value. Any resulting impairment loss is recorded in the income statement in Other Operating Income & Expense. In the case of business combinations, the excess of the purchase price over the fair value of net identifiable assets acquired is recorded as goodwill in the balance sheet. Goodwill, which is denominated in the local currency of the related acquisition, is amortized to income through other Operating Income & Expense on a straight-line basis over the asset's useful life. The amortization period is determined at the time of the acquisition, based upon the particular circumstances, and ranges from 5 to 20 years. An exception is for goodwill on acquisitions after March 31, 2004, which is no longer amortized under IFRS 3 but instead is subject to annual impairment testing. Goodwill relating to acquisitions arising prior to January 1, 1995, has been fully written off against retained earnings.

Up to March 31, 2004, management determined the estimated useful life of goodwill arising from an acquisition based on its evaluation of the respective company at the time of the acquisition, considering factors such as existing market share, potential sales growth and other factors inherent in the acquired company.

For all acquisitions after March 31, 2004, in accordance with IAS 38 (revised), In-Process Research & Development (IPR&D) is separately recorded as an intangible asset. It will start to be amortized when it results in a saleable product and is assessed annually for impairment.

Other acquired intangible assets are written off on a straight-line basis over the following periods:

Trademarks	10 to 15 years
Product and marketing rights	5 to 20 years
Software	3 years
Others	3 to 5 years

Trademarks are amortized on a straight-line basis over their estimated economic or legal life, whichever is shorter, while the practice of the Group has been to amortize product rights over estimated useful lives of 5 to 20 years. The useful lives assigned to acquired product rights are based on the maturity of the products and the estimated economic benefit that such product rights can provide. Marketing rights are amortized over their useful lives commencing in the year in which the rights first generate sales.

Long-lived property, plant & equipment and identifiable intangibles are reviewed for impairment whenever events or changes in circumstances indicate that the balance sheet carrying amount of the asset may not be recoverable. Goodwill is reviewed for impairment annually. When events or changes in circumstances indicate the value may not be fully recoverable, the Group estimates its value in use based on the future cash flows expected to result from the use of the asset and its eventual disposition. If the balance sheet carrying amount of the asset is more than the higher of its value in use to Novartis or its anticipated net selling price, an impairment loss for the difference is recognized. For purposes of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash flows. Considerable management judgment is necessary to estimate discounted future cash flows. Accordingly, actual outcomes could vary significantly from such estimates.

Financial assets: Minority investments other than associated companies and joint ventures are initially recorded at cost on the trade date and subsequently carried at fair value and debt securities are carried at amortized cost. Exchange rate gains and losses on loans are recorded in the income statement. Originated loans are carried at amortized cost, less any allowances for uncollectable amounts. All other changes in the fair value of financial assets are deferred as a fair value adjustment to equity and recycled to the income statement when the asset is sold. Adjustments are made for other than temporary impairments in value.

Inventories: Purchased products are valued at acquisition cost while own-manufactured products are valued at manufacturing cost including related production expenses. In the balance sheet, inventory is primarily valued at standard cost, which approximates to historical cost determined on a first-in first-out basis, and this value is used for the cost of goods sold in the income statement. Provisions are made for inventories with a lower market value or which are slow-moving. If it becomes apparent that the inventory can be used, provisions are reversed with increases in the inventories' market value up to the original costs. Unsaleable inventory is fully written off.

Trade accounts receivable: The reported values represent the invoiced amounts, less adjustments for doubtful receivables. Doubtful receivable provisions are established based upon the difference between the receivable value and the estimated net collectible amount.

Cash and cash equivalents: Cash and cash equivalents include highly liquid investments with maturities of three months or less. This position is readily convertible to known amounts of cash.

Marketable securities: Marketable securities consist of equity and debt securities which are 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 cost and subsequently carried at fair value. Exchange rate gains and losses on bonds are recorded in the income statement. All other changes in the fair value of unhedged securities are deferred as a fair value adjustment in equity and recycled to the 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 income statement where it offsets the gains or losses of the hedging derivative.

Unrealized losses on marketable securities are included in Financial income, net in the income statement when there is objective evidence that the marketable securities are impaired. For 2004 the Group has amended its process to assess impairments of available-for-sale (AFS) equity securities. Any security with a value less than market at the balance sheet date is now assessed for impairment (previously when the fair value was 50% of cost for a sustained period of six months).

Repurchase agreements: The underlying securities are included within marketable securities. The repurchase agreements for the securities sold and agreed to be repurchased under the agreement are recognized gross and included in short-term financial debts. Income and expenses are recorded in interest income and expense, respectively.

Taxes: Taxes on income are accrued in the same periods as the revenues and expenses to which they relate. Deferred taxes have been calculated using the comprehensive liability method. They are calculated on the temporary differences that arise between the tax base of an asset or liability and its carrying value in the balance sheet of Group companies 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 retained earnings of Group companies are only taken into account where a dividend has been planned since generally the retained earnings are reinvested. Deferred tax assets or liabilities, calculated using applicable subsidiary tax rates, are included in the consolidated balance sheet as either a long-term asset or liability, with changes in the year recorded in the income statement. Deferred tax assets are fully recognized and reduced by a valuation allowance if it is probable that a benefit will not be realized in the future.

Pension plans, post-employment benefits, other long-term employee benefits and employee share participation plans:

a) Defined benefit pension plans

The liability in respect to defined benefit pension plans is in all material cases the defined benefit obligation calculated annually by independent actuaries using the projected unit credit method. The defined benefit obligation is measured at the present value of the estimated future cash flows. The charge for such pension plans, representing the net periodic pension cost less employee contributions, is included in the personnel expenses of the various functions where the employees are located. Plan assets are recorded at their fair values. Significant gains or losses arising from experience adjustments, changes in actuarial assumptions, and amendments to pension plans are charged or credited to income over the service lives of the related employees. Any pension asset recognized does not exceed the present value of future economic benefits available in the form of refunds from the plan and/or expected reductions in future contributions to the plan.

b) Post-employment benefits other than pensions

Certain subsidiaries provide health care and insurance benefits for a portion of their retired employees and their eligible dependents. The cost of these benefits is actuarially determined and included in the related function expenses over the employees' working lives. The related liability is included in long-term liabilities.

c) Other long-term employee benefits

Other long-term employee benefits represent amounts due to employees under deferred compensation arrangements mandated by 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 employees are located. The related obligation is accrued in other long-term liabilities.

d) Employee share participation plans

No compensation cost is recognized in these financial statements for options or shares granted to employees from employee share participation plans.

Research and development: Research and development expenses are fully charged to the income statement. The Group considers that regulatory and other uncertainties inherent in the development of its key new products preclude it from capitalizing development costs except for post-March 31, 2004 acquired In-Process Research & Development which is capitalized separately from goodwill. Other acquired projects that have achieved technical feasibility, usually confirmed by the US Food & Drug Administration or comparable regulatory body approval, are capitalized because it is probable that the costs will give rise to future economic benefits. Laboratory buildings and equipment included in property, plant & equipment are depreciated over their estimated useful lives.

Government grants: Government grants are deferred and recognized in the income statement over the period necessary to match them with the related costs which they are intended to compensate for.

Restructuring charges: Restructuring charges are accrued against operating income in the period in which management has committed to a plan and in which the liability has been incurred and the amount can be reasonably estimated. Restructuring charges or releases are included in other operating expenses.

Environmental liabilities: Novartis is exposed to environmental liabilities relating to its past operations, principally in respect to remediation costs. Provisions for non-recurring remediation costs are made when expenditure on remedial work is probable and the cost can be estimated. Cost of future expenditures do not reflect any insurance or other claims or recoveries. The Group records insurance or other recoveries at such time the amount is reasonably estimable and collection is virtually certain. With regard to recurring remediation costs, the discounted amounts of such annual costs for the next 30 years are calculated and recorded in long-term liabilities.

Dividends: Dividends are recorded in the Group's financial statements in the period in which they are approved by the Group's shareholders.

Treasury shares: Treasury shares are deducted from 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 retained earnings.

2. Changes in the Scope of Consolidation

Acquisitions prior to March 31, 2004 were accounted for in accordance with IAS 22. Acquisitions since April 1, 2004 are accounted for in accordance with IFRS 3 and goodwill is no longer amortized but instead is assessed annually for impairment.

The following significant changes in the scope of consolidation were made during 2004 and 2003:

Acquisitions 2004

Sandoz: On June 30, Novartis acquired 100% of the shares of the Danish generics company Durascan A/S from AstraZeneca. Goodwill of USD 23 million has been recorded on this transaction.

On August 13, Novartis completed the acquisition of 100% of the shares of Sabex Inc., a Canadian generic manufacturer with a leading position in generic injectables, for USD 565 million in cash. Based on a preliminary estimate, goodwill of USD 329 million has been recorded on this transaction.

A total of USD 61 million of sales and USD 10 million of operating loss were recorded since the closure of these two transactions in 2004. The operating loss is mainly due to one-off costs related to purchase accounting and integration costs.

Medical Nutrition: On February 13, Novartis completed the acquisition of Mead Johnson's global adult medical nutrition business for USD 385 million in cash. These activities are included in the consolidated financial statements from that date with USD 220 million of sales and a USD 31 million operating loss being recorded in 2004. Goodwill of USD 183 million has been recorded on this transaction which is being amortized on a straight-line basis over 20 years.

Acquisitions 2003

Pharmaceuticals: On May 8, 2003 an additional 51% of the share capital of Idenix Pharmaceuticals Inc., Cambridge, Massachusetts was acquired for an initial payment of USD 255 million in cash to its existing shareholders. As part of the acquisition, Novartis agreed to pay additional amounts to the shareholders of Idenix Pharmaceuticals Inc. based on the achievement of clinical and regulatory milestones, marketing approvals and sales targets. The total additional value of these milestone payments is up to USD 357 million. Novartis cannot estimate when or if these additional milestone payments will be made. This company is included in the consolidated financial statements from May 2003. Since net liabilities were also assumed, total goodwill amounted to USD 297 million on this transaction which is being amortized over 15 years.

Corporate: In 2003 the Group increased its investment in Roche Holding AG to 33.3% by acquiring further voting shares for USD 120 million. The Group's holding represents approximately 6.3% of Roche Holding AG's total shares and equity instruments.

3. Division and Business Unit Segmentation of Key Figures 2004 and 2003

Operating Divisions: Novartis is divided operationally on a worldwide basis into two Divisions, Pharmaceuticals and Consumer Health. These Divisions, which are based on internal management structures, are best described as follows:

The Pharmaceuticals Division researches, develops, manufactures, distributes, and sells branded pharmaceuticals in the following therapeutic areas: cardiovascular and metabolism, central nervous system, respiratory and dermatology, arthritis, bone therapy, gastrointestinal diseases, hormone replacement therapy and incontinence, infectious diseases, oncology and hematology, transplantation and immunology, ophthalmics. The Pharmaceuticals Division is organized into five Business Units: Primary Care, Oncology, Transplantation, Mature Products and Ophthalmics, which due to the fact that they have common long-term economic perspectives, customers, research, development, production, distribution and regulatory environments are not required to be separately disclosed as segments.

The Consumer Health Division consists of the following six Business Units:

The Sandoz Business Unit manufactures, distributes and sells generic pharmaceutical products and substances no longer subject to patent protection.

The Over-The-Counter (OTC) Business Unit manufactures, distributes and sells a variety of over-the-counter self medications.

The Animal Health Business Unit manufactures, distributes and sells veterinary products for farm and companion animals.

The Medical Nutrition Business Unit manufactures, distributes and sells health and medical nutrition products.

The Infant & Baby Business Unit manufactures, distributes and sells foods and other products and services designed to serve the particular needs of infants and babies.

The CIBA Vision Business Unit manufactures, distributes and sells contact lenses, lens care products, and ophthalmic surgical products.

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 certain items of income and expense which are not directly attributable to specific Divisions. Usually, no allocation of Corporate items is made to the Divisions although there are charges made by Corporate for share and share option programs and certain pension plans.

The Group's Divisions are businesses that offer different products. These Divisions are managed separately because they manufacture, distribute, and sell distinct products which require differing technologies and marketing strategies.

Revenues on inter-Divisional and inter-Business Unit sales are determined on an arm's length basis. The accounting policies of the Divisions and Business Units described above are the same as those described in the summary of accounting policies except that they receive a Corporate charge for share and share option programs which have no net cost in the Group's IFRS consolidated financial statements. The Group principally evaluates Divisional and Business Unit performance and allocates resources based on operating income.

Division and Business Unit net operating assets consist primarily of property, plant & equipment, intangible assets, inventories and receivables less operating liabilities. Corporate assets and liabilities principally consist of net liquidity (cash, cash equivalents, marketable securities less financial debts), investments in associated companies and deferred and current taxes.

					Consumer Health Division Business Units							
	Pharmaceuticals Division		Consumer Health Division		Sandoz		OTC		Animal Health		Medical Nutrition	
(in USD millions except employees)	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**
Net sales to third parties	**18 497**	**16 020**	**9 750**	**8 844**	**3 045**	**2 906**	**1 975**	**1 772**	**756**	**682**	**1 121**	**815**
Sales to other Divisions/Business Units	146	133	98	98	97	139	29	14			7	1
Sales of Divisions/Business Units	**18 643**	**16 153**	**9 848**	**8 942**	**3 142**	**3 045**	**2 004**	**1 786**	**756**	**682**	**1 128**	**816**
Cost of Goods Sold	-2 568	-2 360	-4 310	-3 768								
Gross profit	**16 075**	**13 793**	**5 538**	**5 174**								
Marketing & Sales	-6 099	-5 322	-2 774	-2 532								
Research & Development	-3 480	-3 079	-566	-529								
General & Administration	-641	-582	-573	-485								
Other income & expense	-602	-387	-444	-308								
Operating income	**5 253**	**4 423**	**1 181**	**1 320**	**235**	**473**	**351**	**309**	**78**	**88**	**32**	**82**
Result from associated companies	34	136	2	3	2	3						
Financial income, net												
Income before taxes and minority interests												
Taxes												
Income before minority interests												
Minority interests												
Net income												
Included in operating income are:												
Research and development	-3 480	-3 079	-566	-529	-286	-263	-84	-75	-82	-74	-20	-15
Depreciation of property, plant & equipment	-434	-424	-314	-285	-170	-143	-20	-23	-11	-10	-13	-12
Amortization of product rights, patent rights and trademarks	-160	-165	-128	-106	-69	-54	-18	-15	-6	-5	-10	-3
Amortization of other intangible assets and goodwill	-32	-22	-128	-114	-41	-45	-2	-3	-14	-14	-21	-3
Impairment charges on property, plant & equipment		-26	-14	-5	-16						4	-4
Impairment charges on product rights, patent rights and trademarks	-12			-17								
Impairment charges on other intangible assets and goodwill		-12	-75	-76	-75	-72						
Thereof amortization and impairments on product rights, patent rights and trademarks charged to other income & expense	-157	-156	-107	-104	-57	-45	-16	-13			-10	-1
Restructuring charges	-10		-21		-21							
Royalties												
income	41	58	19	8	6	1	8	4	1		2	
expense	-304	-256	-39	-20	-4	-8	-16	-6	-12	-1	-3	
Total assets	**14 914**	**13 836**	**11 494**	**9 689**	**5 379**	**4 321**	**1 198**	**1 032**	**627**	**660**	**933**	**468**
Liabilities	-5 418	-4 867	-3 159	-2 962	-886	-950	-492	-434	-168	-154	-326	-211
Total equity and minority interests	**9 496**	**8 969**	**8 335**	**6 727**	**4 493**	**3 371**	**706**	**598**	**459**	**506**	**607**	**257**
Less net liquidity												

					Consumer Health Division Business Units							
Net operating assets	**9 496**	**8 969**	**8 335**	**6 727**	**4 493**	**3 371**	**706**	**598**	**459**	**506**	**607**	**257**
Included in total assets are:												
Total property, plant & equipment	5 379	4 828	2 761	2 434	1 797	1 532	163	161	86	79	101	98
Additions to property, plant & equipment	716	771	522	530	329	388	16	20	15	13	10	11
Additions to intangible assets	116	359	602	186	368	82	3	19		2	186	33
Total investments in associated companies	1 146	1 120	25	23	25	23						
Employees at year end (unaudited)	**47 325**	**44 640**	**32 548**	**32 464**	**13 397**	**12 918**	**4 047**	**3 920**	**2 248**	**2 193**	**2 984**	**2 849**

	Consumer Health Division Business Units									
	Infant & Baby		CIBA Vision		Divisional Management Costs & Eliminations		Corporate		TOTAL	
(in USD millions except employees)	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**
Net sales to third parties	**1 441**	**1 361**	**1 412**	**1 308**					**28 247**	**24 864**
Sales to other Divisions/Business Units			12	8	-47	-64	-244	-231		
Sales of Divisions/Business Units	**1 441**	**1 361**	**1 424**	**1 316**	**-47**	**-64**	**-244**	**-231**	**28 247**	**24 864**
Cost of Goods Sold							253	234	-6 625	-5 894
Gross profit							**9**	**3**	**21 622**	**18 970**
Marketing & Sales									-8 873	-7 854
Research & Development							-161	-148	-4 207	-3 756
General & Administration							-326	-314	-1 540	-1 381
Other income & expense							583	605	-463	-90
Operating income	**274**	**254**	**236**	**153**	**-25**	**-39**	**105**	**146**	**6 539**	**5 889**
Result from associated companies							106	-339	142	-200
Financial income, net									227	379
Income before taxes and minority interests									**6 908**	**6 068**
Taxes									-1 126	-1 008
Income before minority interests									**5 782**	**5 060**
Minority interests									-15	-44
Net income									**5 767**	**5 016**
Included in operating income are:										
Research and development	-29	-28	-65	-74			-161	-148	-4 207	-3 756
Depreciation of property, plant & equipment	-31	-30	-69	-67			-32	-28	-780	-737
Amortization of product rights, patent rights and trademarks	-1	-2	-24	-27					-288	-271
Amortization of other intangible assets and goodwill	-24	-21	-26	-28			-8	-3	-168	-139
Impairment charges on property, plant & equipment			-2	-1			-2		-16	-31
Impairment charges on product rights, patent rights and trademarks				-17					-12	-17
Impairment charges on other intangible assets and goodwill				-4					-75	-88
Thereof amortization and impairments on product rights, patent rights and trademarks charged to other income & expense		-2	-24	-43					-264	-260
Restructuring charges									-31	
Royalties										
income			2	3					60	66
expense			-4	-5					-343	-276
Total assets	**1 903**	**1 684**	**1 522**	**1 573**	**-68**	**-49**	**28 061**	**25 792**	**54 469**	**49 317**
Liabilities	-986	-880	-351	-340	50	7	-11 971	-10 969	-20 548	-18 798
Total equity and minority interests	**917**	**804**	**1 171**	**1 233**	**-18**	**-42**	**16 090**	**14 823**	**33 921**	**30 519**
Less net liquidity							-7 738	-7 289	-7 738	-7 289

	Consumer Health Division Business Units									
Net operating assets	**917**	**804**	**1 171**	**1 233**	**-18**	**-42**	**8 352**	**7 534**	**26 183**	**23 230**
Included in total assets are:										
Total property, plant & equipment	264	242	350	322			357	335	8 497	7 597
Additions to property, plant & equipment	54	29	98	69			31	28	1 269	1 329
Additions to intangible assets	43	39	2	11					718	545
Total investments in associated companies							6 279	5 705	7 450	6 848
Employees at year end (unaudited)	**4 385**	**4 829**	**5 479**	**5 717**	**44**	**38**	**1 519**	**1 437**	**81 392**	**78 541**

4. Supplementary Segmentation of Key Figures 2004 and 2003

Geographical segmentation

(in USD millions except employees)	Europe	The Americas	Asia/Africa Australia	Total
2004				
Net sales[1]	**10 289**	**13 285**	**4 673**	**28 247**
Operating income[2]	**4 625**	**1 417**	**497**	**6 539**
Depreciation of property, plant & equipment included in operating income	510	229	41	780
Net operating assets[3]	**18 230**	**6 702**	**1 251**	**26 183**
Additions to property, plant & equipment included in net operating assets	787	340	142	1 269
Additions to intangible assets	33	660	25	718
Personnel costs	3 401	3 011	572	6 984
Employees at year end[4]	**38 229**	**30 186**	**12 977**	**81 392**

	Europe	The Americas	Asia/Africa Australia	Total
2003				
Net sales[1]	**8 788**	**12 036**	**4 040**	**24 864**
Operating income[2]	**4 505**	**897**	**487**	**5 889**
Depreciation of property, plant & equipment included in operating income	480	220	37	737
Net operating assets[3]	**16 271**	**5 984**	**975**	**23 230**
Additions to property, plant & equipment included in net operating assets	846	427	56	1 329
Additions to intangible assets	120	424	1	545
Personnel costs	3 002	2 759	491	6 252
Employees at year end[4]	**37 510**	**28 608**	**12 423**	**78 541**

The following countries accounted for more than 5% of at least one of the respective Group totals as at, or for the years ended, December 31, 2004 and 2003:

	Net sales[1]				Additions to property, plant & equipment				Net operating assets[3]			
Country	**2004**	**%**	**2003**	**%**	**2004**	**%**	**2003**	**%**	**2004**	**%**	**2003**	**%**
Switzerland	330	1	319	1	226	18	177	13	12 204	47	10 631	46
USA	11 258	40	10 280	41	302	24	388	29	6 316	24	6 149	26
Japan	2 424	9	2 065	8	21	2	14	1	1 113	4	857	4
France	1 692	6	1 423	6	19	1	17	1	780	3	690	3
Germany	1 596	6	1 479	6	36	3	39	3	-121		30	
UK	979	3	789	3	154	12	194	15	1 180	5	1 008	4
Austria	245	1	224	1	106	8	170	13	1 043	4	946	4
Slovenia	112		103		130	10	103	8	1 222	5	1 048	5
Singapore	23		20		70	6	9	1	82		17	
Other	9 588	34	8 162	34	205	16	218	16	2 364	8	1 854	8
Total Group	**28 247**	**100**	**24 864**	**100**	**1 269**	**100**	**1 329**	**100**	**26 183**	**100**	**23 230**	**100**

(1) Net Sales by location of third party customer.

(2) Operating income as recorded in the legal entities in the respective region.

(3) Long-term and current assets (excluding marketable securities, cash and time deposits) less non-interest bearing liabilities.

(4) Unaudited.

One customer accounts for approximately 10% of Group net sales in 2004. No other customer accounts for 10% or more of the Group's total net sales.

Pharmaceutical Division therapeutic area net sales

Therapeutic areas

	2004 USD millions	**2003 USD millions**
Cardiovascular		
Strategic franchise products		
Diovan	3 093	2 425
Lotrel	920	777
Lescol	758	734
Other	120	116
Total strategic franchise products	**4 891**	**4 052**
Mature products	**815**	**1 064**
Total Cardiovascular products	**5 706**	**5 116**

Nervous system

	2004 USD millions	2003 USD millions
Strategic franchise products		
Trileptal	518	397
Exelon	422	367
Tegretol	396	384
Other	686	595
Total strategic franchise products	**2 022**	**1 743**
Mature products	**533**	**505**
Total Nervous System products	**2 555**	**2 248**

Respiratory/Dermatology		
Strategic franchise products		
Lamisil	1 162	978
Elidel	349	235
Foradil	321	289
Other	43	29
Total strategic franchise products	**1 875**	**1 531**
Mature products	**151**	**154**
Total Respiratory/Dermatology products	**2 026**	**1 685**
Oncology		
Gleevec/Glivec	1 634	1 128
Zometa	1 078	892
Sandostatin	827	695
Femara	386	227
Other	290	359
Total Oncology products	**4 215**	**3 301**
Transplantation		
Neoral/Sandimmun	1 011	1 020
Other	81	61
Total Transplantation products	**1 092**	**1 081**
Ophthalmics		
Visudyne	448	357
Other	327	262
Total Ophthalmics products	**775**	**619**
Arthritis/Bone/Gastrointestinal/Hormonal/Infectious diseases/other		
Strategic franchise products		
Zelnorm/Zelmac	299	165
Other	269	240
Total strategic franchise products	**568**	**405**
Mature products	**1 560**	**1 565**
Total Arthritis/Bone/Gastrointestinal/Hormonal/Infectious diseases/other products	**2 128**	**1 970**
Total strategic franchise products	**15 438**	**12 732**
Total mature products	**3 059**	**3 288**
Total	**18 497**	**16 020**

5. Financial Income, Net

	2004 USD millions	2003 USD millions
Interest income	388	323
Dividend income	12	17
Net capital gains	123	11
Income on options and forward contracts	306	1 113
Other financial income	7	9
Financial income	**836**	**1 473**
Interest expense	-261	-243
Impairment of marketable securities	-66	-66
Expenses on options and forward contracts	-332	-809
Other financial expense	-46	-40
Financial expense	**-705**	**-1 158**
Currency result, net	**96**	**64**
Total financial income, net	**227**	**379**

2004 interest income includes a total of USD 3 million (2003: USD 9 million) received from the foundations referred to in Note 27 at commercial interest rates on the outstanding short-term debt.

6. Taxes

Income before taxes and minority interests:

	2004 USD millions	2003 USD millions
Switzerland	3 517	2 809
Foreign	3 391	3 259
Total income before taxes and minority interests	**6 908**	**6 068**

Current and deferred income tax expense:

	2004 USD millions	2003 USD millions
Switzerland	-259	-330
Foreign	-597	-765
Total current income tax expense	**-856**	**-1 095**
Switzerland	-67	-9
Foreign	-133	177

	2004 USD millions	2003 USD millions
Total deferred tax income & expense	**-200**	**168**
Share of tax of associated companies	**-70**	**-81**
Total income tax expense	**-1 126**	**-1 008**

The gross value of unused tax loss carryforwards which have, or have not, been capitalized as deferred tax assets, with their expiry dates is as follows:

	not capitalized USD millions	capitalized USD millions	2004 USD millions
One year	10		10
Two years	12		12
Three years	14	4	18
Four years	69	13	82
Five years	718	5	723
More than five years	355	180	535
Total	**1 178**	**202**	**1 380**

	not capitalized USD millions	capitalized USD millions	2003 USD millions
One year	8	17	25
Two years	4	20	24
Three years	9	42	51
Four years	73	29	102
Five years	45	7	52
More than five years	881	109	990
Total	**1 020**	**224**	**1 244**

Tax losses are capitalized if it is probable that future taxable profits will arise to utilize the losses.

USD 4 million of unused operating tax loss carryforwards expired during 2004 (2003: USD 33 million).

Analysis of tax rate: The main elements contributing to the difference between the Group's overall expected tax rate (the weighted average tax rate based on the income before tax of each subsidiary) and the effective tax rate are:

	2004 %	2003 %
Expected tax rate	16.8	14.8
Effect of taxes of associated companies	0.7	1.9
Effect of disallowed expenditures	1.8	2.3
Effect of utilization of tax losses brought forward from prior periods	-0.4	-0.6
Effect of income taxed at reduced rates	-0.5	-2.0
Effect of tax credits and allowances	-1.7	-1.4
Effect of write-off of deferred tax assets	0.1	0.5
Prior year and other items	-0.5	1.1
Effective tax rate	**16.3**	**16.6**

The utilization of tax loss carryforwards lowered the tax charge by USD 30 million and USD 34 million in 2004 and 2003, respectively.

7. Earnings per share

Basic earnings per share (EPS) is calculated by dividing the net income attributable to shareholders by the weighted average number of shares outstanding during the year, excluding from the issued shares the average number of shares purchased by the Group and held as treasury shares.

	2004	2003
Net income (USD millions)	5 767	5 016
Weighted average number of shares outstanding	2 447 954 717	2 473 522 565
Basic earnings per share (USD)	**2.36**	**2.03**

For the diluted EPS the weighted average number of shares outstanding is adjusted to assume conversion of all potentially dilutive shares.

The diluted EPS calculation takes into account all potential dilutions to the EPS arising from options on Novartis shares.

	2004	2003
Net income (USD millions)	5 767	5 016
Weighted average number of shares outstanding	2 447 954 717	2 473 522 565
Call options on Novartis shares		27 446 092
Adjustment for dilutive share options	11 917 258	4 346 940
Weighted average number of shares for diluted earnings per share	2 459 871 975	2 505 315 597
Diluted earnings per share (USD)	**2.34**	**2.00**

Share equivalents of 13.0 million (2003: 16.4 million) were excluded from the calculation of diluted earnings per share as they were not dilutive.

8. Property, plant & equipment movements

	Land USD millions	Buildings USD millions	Machinery USD millions	Plant under construction and other equipment USD millions	2004 USD millions	2003 USD millions
Cost						
January 1	**367**	**5 247**	**7 909**	**1 370**	**14 893**	**12 670**
Consolidation changes	1	10	19		30	
Reclassifications[(1)]	4	404	583	-991		-237
Additions	13	94	250	912	1 269	1 329
Disposals	-5	-102	-308	-58	-473	-284
Translation effects	23	376	598	130	1 127	1 415
December 31	**403**	**6 029**	**9 051**	**1 363**	**16 846**	**14 893**
Accumulated depreciation						
January 1	**-1**	**-2 544**	**-4 751**		**-7 296**	**-6 349**
Consolidation changes			-1		-1	
Reclassifications[(1)]						334
Depreciation charge		-186	-594		-780	-737
Depreciation on disposals		82	262		344	188
Impairment charge		-4	-12		-16	-31
Translation effects	-1	-208	-391		-600	-701
December 31	**-2**	**-2 860**	**-5 487**		**-8 349**	**-7 296**
Net book value December 31	**401**	**3 169**	**3 564**	**1 363**	**8 497**	**7 597**
Insured value December 31					**19 490**	**17 439**
Net book value of property, plant & equipment under finance lease contracts					**132**	**135**
Commitments for purchases of property, plant & equipment					**325**	**209**

(1) Reclassifications between various asset categories as a result of recording final acquisition balance sheets or due to completion of plant under construction.

9. Intangible asset movements

	Goodwill USD millions	Research & Development USD millions	Product and marketing rights USD millions	Trademarks USD millions	Software USD millions	Other intangibles USD millions	2004 USD millions	2003 USD millions
Cost								
January 1	**2 097**		**3 578**	**441**	**122**	**615**	**6 853**	**6 144**
Consolidation changes		139	158	104		90	491	
Reclassifications[(1)]	6		1	-8	1			-21
Additions	535		15	4	16	148	718	545
Disposals	-20		-29	-5	-10	-49	-113	-316
Translation effects	121	12	235	12	7	20	407	501
December 31	**2 739**	**151**	**3 958**	**548**	**136**	**824**	**8 356**	**6 853**
Accumulated amortization								
January 1	**-620**		**-981**	**-153**	**-96**	**-295**	**-2 145**	**-1 749**
Reclassifications[(1)]				1		-1		-2
Amortization charge	-108		-230	-43	-18	-57	-456	-410
Disposals	7		28	5	7	48	95	271
Impairment charge	-75		-12				-87	-105
Translation effects	-44		-69	-4	-5	-12	-134	-150
December 31	**-840**		**-1 264**	**-194**	**-112**	**-317**	**-2 727**	**-2 145**
Net book value December 31	**1 899**	**151**	**2 694**	**354**	**24**	**507**	**5 629**	**4 708**

(1) Reclassifications between various asset categories as a result of recording final acquisition balance sheets.

In 2004, impairment charges of USD 87 million were recorded, principally relating to the valuation of Sandoz activities in Germany on an economic basis.

In 2003, impairment charges of USD 105 million were recorded, principally relating to the over valuation on an economic basis of the Sandoz activities in Germany, the divestment of Genetic Therapy Inc., US, a Pharmaceuticals Division research activity, to Cell Genesys Inc., US, and adjustments to CIBA Vision Business Unit intangibles.

10. Investments in associated companies

Novartis has the following significant investments in associated companies which are accounted for by using the equity method:

	Balance sheet value		Pre-tax income statement effect	
	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions
Roche Holding AG, Switzerland	6 234	5 662	97	-354
Chiron Corporation, USA	1 143	1 118	33	134
Others	73	68	12	20
Total	**7 450**	**6 848**	**142**	**-200**

The accounting standards of the Group's associated companies are adjusted to IFRS in cases where IFRS is not already used.

Due to the various estimates that have been made in applying the equity method accounting treatment for Roche Holding AG ("Roche") and Chiron Corporation ("Chiron"), adjustments may be necessary in succeeding years as more financial and other information becomes publicly available.

Roche Holding AG: The Group's holding in Roche voting shares was 33.3% at December 31, 2004 and 2003. This investment represents 6.3% of the total outstanding voting and nonvoting equity instruments. In order to apply the equity method of accounting, independent appraisers have been used to estimate the fair value of Roche so as to determine the Novartis share of property, plant & equipment and intangible assets and the amount of the residual goodwill at the time of acquisition. The purchase price allocations were made on publicly available information at the time of acquisition of the shares.

The purchase price allocation is as follows:

	USD millions
Identified intangible assets	4 161
Other net assets	104
Residual goodwill	2 971
Total purchase price	**7 236**
Net income effect 2004	27
Other accumulated equity adjustments	-1 029
December 31, 2004 balance sheet value	**6 234**

The identified intangible assets principally relate to the value of currently marketed products and are being amortized straight-line over their estimated average useful life of 20 years. The residual goodwill is also being amortized on a straight-line basis over 20 years.

The income statement effects from applying Novartis accounting policies to the Roche figures for 2004 and 2003 are as follows:

	2004 USD millions	**2003 USD millions**
Depreciation and amortization of fair value adjustments to		
property, plant & equipment and intangible assets	-166	-143
goodwill	-136	-127
Prior year adjustment	30	-269
Novartis share of estimated Roche current year consolidated pre-tax income	369	185
Pre-tax income statement effect	**97**	**-354**
Deferred tax	-70	-44
Net income effect	**27**	**-398**

The market value of the Novartis interest in Roche at December 31, 2004 was USD 7.1billion (Reuters symbol: RO.S).

Chiron Corporation: The Group's holding in the common stock of Chiron was 42.5% and 42.3% at December 31, 2004 and 2003, respectively. The recording of the results of the strategic interest in Chiron is based on the estimated Chiron equity at December 31 of each year. The amounts for Chiron incorporated into the Novartis consolidated financial statements take into account the effects stemming from differences in accounting policies between Novartis and Chiron (primarily Novartis' amortization over 10 years of in-process research and development arising on Chiron's acquisitions which are written off by Chiron in the year of acquisition).

The income statement effects from applying Novartis accounting policies to the Chiron figures for 2004 and 2003 figures are as follows:

	2004 USD millions	2003 USD millions
Amortization of goodwill	-18	-20
Prior year adjustment	4	4
Novartis share of estimated Chiron current year consolidated pre-tax income	47	150
Pre-tax income statement effect	**33**	**134**
Deferred tax	-1	-37
Net income effect	**32**	**97**

The market value of the Novartis interest in Chiron at December 31, 2004 was USD 2.6 billion (NASDAQ symbol: CHIR).

11. Deferred taxes

		2004 USD millions	2003 USD millions
Assets associated with	employee benefit liabilities	658	481
	operating loss carryforwards	214	222
	inventories	791	957
	intangible assets	43	60
	other provisions and accruals	679	867
Less: valuation allowance		-196	-186
Deferred tax assets less valuation allowance		**2 189**	**2 401**
Liabilities associated with	property, plant & equipment	670	644
	prepaid pensions	1 016	983
	other provisions and accruals	1 463	1 306
	inventories	235	205
Total liabilities		**3 384**	**3 138**
Net deferred tax liability		**1 195**	**737**

Movement in deferred tax asset valuation allowance:

	2004 USD millions	2003 USD millions
January 1	**-186**	**-145**
Additions	-45	-44
Utilization	35	3
December 31	**-196**	**-186**

	2004 USD millions	2003 USD millions

A reversal of the valuation allowance could occur when circumstances make the realization of deferred tax assets probable. This would result in a decrease in the Group's effective tax rate.

At December 31, 2004 unremitted earnings of USD 30 billion (2003: USD 27 billion) have been retained by subsidiary companies for reinvestment. No provision is made for income taxes that would be payable upon the distribution of such earnings. If the earnings were remitted, an income tax charge could result based on the tax statutes currently in effect.

	2004 USD millions	2003 USD millions
Temporary differences on which no deferred tax has been provided as they are permanent in nature related to:		
investments in subsidiaries	-934	775
goodwill from acquisitions	1 121	995

12. Financial and other assets

	2004 USD millions	2003 USD millions
Other investments and long-term loans	1 756	1 514
Prepaid benefit cost	4 337	3 976
Total	**6 093**	**5 490**

Other investments are valued at market value.

During 2004, USD 35 million (2003: USD 80 million) of unrealized losses on available-for-sale investments and USD 14 million (2003: nil) on other participations were considered to be other than temporary and were charged to the income statement.

13. Inventories

	2004 USD millions	2003 USD millions
Raw material, consumables	546	531
Finished products	3 012	2 815
Total inventories	**3 558**	**3 346**

Movement in inventory write-downs deducted from inventory categories:

	2004 USD millions	2003 USD millions
January 1	**-238**	**-252**
Additions	-266	-196
Utilization	273	247
Translation effects	-29	-37
December 31	**-260**	**-238**

	2004 USD millions	2003 USD millions

14. Trade accounts receivable

	2004 USD millions	2003 USD millions
Total	5 102	4 603
Provision for doubtful receivables	-251	-227
Total trade accounts receivable, net	**4 851**	**4 376**

Movement in provision for doubtful receivables:

	2004 USD millions	2003 USD millions
January 1	**-227**	**-218**
Additions	-186	-89
Utilization	176	98
Translation effects	-14	-18
December 31	**-251**	**-227**

15. Other current assets

		2004 USD millions	2003 USD millions
Withholding tax recoverable		69	257
Gerber Life insurance receivables		155	149
Prepaid expenses	third parties	268	183
	associated companies	3	5
Other receivables	third party	1 086	688
	associated companies	28	10
Total other current assets		**1 609**	**1 292**

16. Marketable securities and derivative financial instruments

Market risk

The Group is exposed to market risk, primarily related to foreign exchange, interest rates and market value of the investment of liquid funds. Management 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 is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates, foreign currency rates and market rates of investment 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. The Group does not enter into any financial transaction containing a risk that cannot be quantified at the time the transaction is concluded; i.e. 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 hedges transactions and future transactions (in the case of anticipatory hedges) it knows it will have in the future based on past experience. In the case of liquid funds it writes options on assets it has, or on positions it wants to acquire, and for which it has the required liquidity. The Group therefore expects that any loss in value for these instruments generally would be offset by increases in the value of the hedged assets.

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a) Foreign exchange rates: The Group uses the US dollar as its reporting currency and is therefore exposed to foreign exchange movements, primarily in European, Japanese, other Asian and Latin American currencies. Consequently, it enters into various contracts which change in value as foreign exchange rates change, to preserve the value of assets, commitments and anticipated transactions. The Group uses forward contracts and foreign currency option contracts to hedge certain anticipated foreign currency revenues and the net investment in certain foreign subsidiaries.

b) Commodities: 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 that margin and is thus within the Group's risk management tolerance level. Accordingly, the Group does not enter into commodity future, forward and option contracts to manage fluctuations in prices of anticipated purchases.

c) Interest rates: The Group manages its exposure to interest rate risk by changing the proportion of fixed rate debt and variable rate debt in its total debt portfolio. To manage this mix the Group may enter into interest rate swap agreements, in which it exchanges the periodic payments, based on a notional amount and agreed upon fixed and variable interest rates. Use of the above-mentioned derivative financial instruments has not had a material impact on the Group's financial position at December 31, 2004 and 2003 or the Group's results of operations for the years ended December 31, 2004 and 2003.

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 minimized 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.

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.

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, 2004 and 2003. Contract or underlying principal amounts indicate the volume of business outstanding at the balance sheet date and do not represent amounts at risk. The fair values are determined by the markets or standard pricing models at December 31, 2004 and 2003.

Derivative financial instruments

	Contract or underlying principal amount		Positive fair values		Negative fair values	
	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions
Currency related instruments						
Forward foreign exchange rate contracts	5 771	5 470	65	360	-281	-398
Over the counter currency options	3 987	4 016	6	34	-3	-29
Cross currency swaps	1 226	1 123	296	223		
Total of currency related instruments	**10 984**	**10 609**	**367**	**617**	**-284**	**-427**
Interest rate related instruments						
Interest rate swaps	3 820	3 826	11	12	-7	-10
Forward rate agreements	9 219	6 194	6	2	-6	-3
Interest rate options	100	520				-1
Total of interest rate related instruments	**13 139**	**10 540**	**17**	**14**	**-13**	**-14**
Options on equity securities	**268**	**1 242**	**15**	**68**		**-58**
Total derivative financial instruments included in marketable securities and in short-term financial debt	**24 391**	**22 391**	**399**	**699**	**-297**	**-499**
Currency related instruments included in other current assets and liabilities						
Forward foreign exchange rate contracts		1 946		23		-34
Over the counter currency options		2				
Total currency related instruments included in other current assets and liabilities		**1 948**		**23**		**-34**
Total derivative financial instruments	**24 391**	**24 339**	**399**	**722**	**-297**	**-533**

The contract or underlying principal amount of derivative financial instruments at December 31, 2004 and 2003 are set forth by currency in the table below.

	CHF USD millions	EUR USD millions	USD USD millions	JPY USD millions	Other currencies USD millions	Total 2004 USD millions	Total 2003 USD millions
Currency related instruments							
Forward foreign exchange rate contracts	2	970	3 725	959	115	5 771	7 416
Over the counter currency options		544	509	145	2 789	3 987	4 018
Cross currency swaps		1 226				1 226	1 123
Currency related derivatives	**2**	**2 740**	**4 234**	**1 104**	**2 904**	**10 984**	**12 557**
Interest rate related instruments							
Interest rate swaps	441	2 179	1 200			3 820	3 826
Forward rate agreements		5 719	3 500			9 219	6 194
Interest rate options			100			100	520
Interest rate related derivatives	**441**	**7 898**	**4 800**			**13 139**	**10 540**
Options on equity securities		**58**	**210**			**268**	**1 242**
Total derivative financial instruments	**443**	**10 696**	**9 244**	**1 104**	**2 904**	**24 391**	**24 339**

Derivative financial instruments effective for hedge accounting purposes

	Contract or underlying principal amount	Fair values
	2003 USD millions	2003 USD millions
Anticipated transaction hedges		
Forward foreign exchange rate contracts	3 167	25
Over the counter currency options	2	
Total of anticipated transaction hedges effective for hedge accounting purposes	**3 169**	**25**

At December 31, 2004 there were no derivative financial instruments effective for hedge accounting purposes.

Marketable securities, time deposits and derivative financial instruments

	2004 USD millions	2003 USD millions
Available-for-sale marketable securities		
Equity securities	435	1 277
Debt securities	6 188	4 857
Total available-for-sale marketable securities	**6 623**	**6 134**
Time deposits with remaining maturity more than 90 days	1 353	651
Derivative financial instruments	399	699
Accrued interest on derivative financial instruments	26	42
Accrued interest on debt securities	109	87
Total marketable securities, time deposits and derivative financial instruments	**8 510**	**7 613**

During 2004, unrealized losses of USD 66 million on available-for-sale marketable securities were considered to be other than temporary and charged to the income statement (2003: USD 66 million).

17. Details of shares and share capital movements

	Number of shares[1]				
	Dec 31, 2002	Movement in year	Dec 31, 2003	Movement in year	Dec 31, 2004
Total Novartis shares	**2 824 150 000**	**-22 680 000**	**2 801 470 000**	**-24 260 000**	**2 777 210 000**
Treasury shares					
Shares reserved for employee share ownership plans	41 569 718		41 569 718		41 569 718
Shares reserved for call options	54 901 962	-54 901 962			
Unreserved treasury shares	252 707 701	39 423 921	292 131 622	16 698 584	308 830 206
Total treasury shares	**349 179 381**	**-15 478 041**	**333 701 340**	**16 698 584**	**350 399 924**
Total outstanding shares	**2 474 970 619**	**-7 201 959**	**2 467 768 660**	**-40 958 584**	**2 426 810 076**

	USD millions	USD millions	USD millions	USD millions	USD millions
Share capital	1 025	-8	1 017	-9	1 008
Treasury shares	-127	6	-121	-6	-127
Outstanding share capital	**898**	**-2**	**896**	**-15**	**881**

(1) All shares are registered, authorized, issued and fully paid. All are voting shares and, except for 291 462 603 treasury shares, are dividend bearing.

18. Long-term financial debts

	2004 USD millions	2003 USD millions
Straight bonds	3 185	2 972
Liabilities to banks and other financial institutions[1]	114	142
Finance lease obligations	117	122
Total (including current portion of long-term debt)	**3 416**	**3 236**
Less current portion of long-term debt	-680	-45
Total long-term debts	**2 736**	**3 191**

Straight bonds			
USD	6.625% Euro Medium Term Note 1995/2005 of Novartis Corporation, Florham Park, New Jersey, US	300	300
USD	6.625% Euro Medium Term Note 1995/2005 of Novartis Corporation, Florham Park, New Jersey, US	250	250
USD	9.0% bonds 2006 of Gerber Products Company, Fremont, Michigan, US	35	35
EUR	4.0% EUR 900 million bond 2001/2006 of Novartis Securities Investment Ltd., Hamilton, Bermuda[2]	1 228	1 127
EUR	3.75% EUR 1 billion bond 2002/2007 of Novartis Securities Investment Ltd., Hamilton, Bermuda	1 372	1 260
Total straight bonds		**3 185**	**2 972**

(1) Average interest rate 3.4%. (2003: 3.4%).

(2) Swapped into Swiss francs in 2002.

		2004 USD millions	2003 USD millions
Breakdown by maturity	2004		45
	2005	680	677
	2006	1 288	1 178
	2007	1 388	1 274
	2008	20	23
	2009	16	39
	Thereafter	24	
Total		**3 416**	**3 236**

		2004 USD millions	2003 USD millions
Breakdown by currency	USD	707	719
	EUR	1 474	1 382
	CHF	1 228	1 127
	Others	7	8
Total		**3 416**	**3 236**

Fair value comparison	2004 Balance sheet USD millions	2004 Fair values USD millions	2003 Balance sheet USD millions	2003 Fair values USD millions
Straight bonds	3 185	3 272	2 972	3 057
Others	231	231	264	264
Total	**3 416**	**3 503**	**3 236**	**3 321**

Collateralized long-term debts and pledged assets	2004 USD millions	2003 USD millions
Total amount of collateralized long-term financial debts	20	50
Total net book value of property, plant & equipment pledged as collateral for long-term financial debts	88	101

The percentage of fixed rate debt to total financial debt was 47% and 51% at December 31, 2004 and 2003, respectively.

The financial debts, including short-term financial debts, contain only general default covenants. The Group is in compliance with these covenants.

19. Provisions and other long-term liabilities

	2004 USD millions	2003 USD millions
Accrued liability for employee benefits:		
defined benefit pension plans	988	930
other long-term employee benefits and deferred compensation	324	183
other post-employment benefits	495	460
Liabilities for insurance activities	862	766
Environmental provisions	202	177
Provision for legal and product liability settlements	297	335
Deferred purchase consideration		4
Other provisions	182	294
Total	**3 350**	**3 149**

a) Environmental matters:

Novartis has provisions in respect of environmental remediation costs in accordance with the accounting policy described in Note 1. The accrual recorded at December 31, 2004 consists of USD 111 million (2003: USD 84 million) provided for remediation at third party sites and USD 107 million (2003: USD 95 million) for remediation of owned facilities. 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 to certain sites. Novartis actively participates in, or monitors, the clean-up activities at the sites in which it is a PRP. The estimated reserve 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 material components of the environmental provisions consist of costs to fully clean and refurbish contaminated sites and to treat and contain contamination at sites where the environmental exposure is less severe. 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, and the financial capabilities of the other potentially responsible parties.

In connection with the 1997 spin-off of CIBA Specialty Chemicals AG ("CSC") from Novartis AG, a Novartis affiliate has agreed to reimburse CSC 50% of the costs: (i) associated with environmental liabilities arising in the US from the operations of the specialty chemicals business of the US affiliates of the former Ciba-Geigy AG, and (ii) which exceed reserves agreed between that affiliate and CSC. The reimbursement obligations are not subject to any time or amount limits but could terminate for certain liabilities in the US upon the occurrence of certain contingencies which include the merger of CSC or the sale of its assets.

Novartis believes that its total reserves for environmental matters are adequate based upon currently available information, however, given the inherent difficulties in estimating liabilities in this area, it cannot be guaranteed that additional costs will not be incurred beyond the amounts accrued. The effect of resolution of environmental matters on results of operations cannot be predicted due to uncertainty concerning both the amount and the timing of future expenditures and the results of future operations. 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 in a given period.

The following table shows the movements in the environmental liability provisions during 2004 and 2003:

	2004 USD millions	2003 USD millions
January 1	**179**	**163**
Cash payments	-9	-4
Releases	-4	-18
Additions	41	25
Translation effect, net	11	13
December 31	**218**	**179**
Less short-term liability	-16	-2
Long-term liability at December 31	**202**	**177**

b) Legal and product liabilities:

Litigation: A number of Group companies are the subject of litigation arising out of the normal conduct of their business, as a result of which claims could be made against them which, in wholeor in part, might not be covered by insurance. Provisions are established for the gross amount of any probable claim that can be reasonably estimated. Insurance receivables are recorded only in respect of amounts that are virtually certain to be recovered. In the opinion of Group management, however, the outcome of the actions if any, would not be material to the Novartis financial condition but could be material to the Novartis results of operations in a given period.

Average Wholesale Price Litigation: Claims have been brought against various US pharmaceutical companies, including Novartis affiliates alleging that they have fraudulently overstated the Average Wholesale Price (AWP) and "best price", which are used by the US government to calculate, respectively, Medicare and Medicaid reimbursements. Novartis affiliates have been named in a number of these cases. Discovery is in process against certain defendants in these cases, but not yet against Group affiliates. Novartis affiliates have also voluntarily participated in an ongoing Congressional inquiry on the subject of AWP and pharmaceutical pricing.

Canadian Importation Cases: Novartis affiliates, along with various other pharmaceutical companies, are parties to suits alleging a conspiracy among pharmaceutical companies to keep prices of pharmaceuticals in the US artificially high by blocking imports of Canadian drugs to US consumers. Pretrial motion practice is underway in these cases.

Chiron: Novartis owns approximately 42.5% of the shares of Chiron Corporation. Chiron and its officers and directors are currently the subject of a number of lawsuits and government investigations which include allegations of, among other things, breaches of the securities laws and of fiduciary duties, arising out of Chiron's inabilityto deliver its Fluvirin® influenza vaccine to the US market for the 2004/05 flu season. Novartis AG has been named as a defendant in three of these cases. All of these cases are in the earliest stages.

HRT Litigation: A Novartis affiliate is a defendant, along with various other pharmaceutical companies, in approximately 60 cases brought by people claiming to have been injured by hormone replacement therapy (HRT) products. Discovery is underway in these cases.

Pharmaceutical Antitrust Litigation: A Novartis affiliate along with numerous other prescription drug manufacturers, is a co-defendant in various actions brought by certain US retail pharmacies, alleging antitrust and pricing violations. Pretrial motion practice is underway.

PPA: Novartis affiliates are parties to approximately 250 lawsuits in the US brought by people claiming to have been injured by products containing phenylpropanolamine (PPA) sold by certain of those affiliates. These cases are in various stages of litigation with Novartis having achieved victories in the first three lawsuits to have gone to trial. However, more trials are expected to follow. There can be no guarantee that the affiliates' initial successes will be repeated or sustained in the event of an appeal.

SMON (Subacute Myelo Optico Neuropathy): In 1996 an affiliate of Ciba-Geigy, one of the predecessor companies of Novartis, together with two other pharmaceutical companies, settled certain product liability issues related to sales of its product Clioquinol in Japan. Under the settlement, a Novartis affiliate is required to pay certain future health care costs of the claimants.

Terazosin: A Sandoz affiliate is a defendant in a number of lawsuits in the US claiming injuries and damages allegedly arising out of violation of antitrust laws in the settlement, by the affiliate and Abbott Pharmaceuticals, of a contentious patent litigation involving Abbott's Hytrin® and the Sandoz generic equivalent product. The affiliate has a judgment sharing agreement with Abbott that caps its liability. In addition, in one of the proceedings, the affiliate was successful in overturning on appeal trial court decisions that the settlement of the litigation was per se unlawful and certifying a plaintiff's class. The case has been remanded to the trial court for further proceedings.

Novartis believes that its affiliates have meritorious defenses in these cases, and they are vigorously defending each of them.

Novartis maintains property damage, business interruption, product liability and other insurance policies with third parties, covering claims on a worldwide basis. Novartis believes that its insurance coverage and reserves are reasonable and prudent in the light of its business and the risks to which it is subject. However, events may occur which in whole or in part, might not be covered by third party insurance or the provisions that Novartis have put in place. This is particularly true with respect to product liability claims where other pharmaceutical companies have faced large losses, making third party insurance coverage increasingly difficult to obtain. As a result, while no such losses are presently expected, there can be no guarantee that Novartis will not also face a loss which far exceeds available insurance.

Investigations: From time to time, the Group's affiliates may be the subject of government investigations arising out of the normal conduct of their business. Consistent with the Novartis Code of Conduct and policies regarding compliance with law, it is the Group's policy to cooperate with such investigations.

US enteral pump market: A Novartis Medical Nutrition affiliate in the US is a subject of an investigation by the US Department of Justice regarding marketing and pricing practices in the US enteral pump market, including whether certain federal criminal statutes have been violated. Novartis is in the process of negotiating a possible settlement of that investigation.

UK generics: One of the Group's UK Sandoz affiliates, along with other generic drug companies, is a subject of an investigation by the UK Serious Fraud Office ("SFO") to determine whether its marketing practices during the period prior to its acquisition by Novartis violated criminal or competition laws. The affiliate is cooperating with the SFO's investigation.

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 accrued. 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 in a given period.

The following table shows the movements in the legal and product liability provisions during 2004 and 2003:

	2004 USD millions	2003 USD millions
January 1	**471**	**420**
Consolidation changes		26
Cash payments	-141	-152
Releases	-71	-158
Additions	274	317
Translation effect, net	14	18
December 31	**547**	**471**
Less short-term liability	-250	-136
Long-term liability at December 31	**297**	**335**

20. Short-term financial debts

	2004 USD millions	2003 USD millions
Interest bearing employee accounts	1 012	926
Other bank and financial debt	1 049	660
Commercial paper	372	649
Current portion of long-term financial debt	680	45
Financial obligation for repurchase agreement	709	
Fair value of derivative financial instruments	297	499
Total	**4 119**	**2 779**

The balance sheet values of short-term financial debt, other than the current portion of long-term financial debts, approximates to the estimated fair value due to the short-term nature of these instruments.

The weighted average interest rate on the bank and other financial debt including employee accounts was 2.5% and 3.1% in 2004 and 2003, respectively.

21. Other short-term liabilities

	2004 USD millions	2003 USD millions
Income and other taxes	703	872
Restructuring liabilities	30	43
Accrued expenses for goods and services received but not invoiced	1 442	1 521
Accruals for royalties	162	139
Accrued rebates for Medicaid and Managed Care	454	426
Potential claims from insurance activities	171	149
Accruals for compensation and benefits including social security and pension funds	771	654
Environmental liabilities	16	2
Deferred income relating to government grants	13	14
Goods returned and commission accruals	240	239
Provision for product liability and other legal cases	250	136
Other payables	687	681
Total	**4 939**	**4 876**

Restructuring charges: In October 2002, charges of USD 20 million were incurred in conjunction with the divestment of the Food & Beverage business to Associated British Foods plc (ABF). The charges comprised employee termination costs of USD 8 million and other third party costs of USD 12 million. 45 employees not transferred to ABF were identified in the original plan, all but 4 of them have now left the Group. These associates are fulfilling an interim service level agreement with the new owners and are expected to leave in 2005. All other significant actions associated with the plan were completed during 2004.

In December 2002, provision was made for charges of USD 28 million in conjunction with the re-organization of the Health Food and Slimming and Sports Nutrition businesses into a stand-alone unit called Nutrition & Santé. The charges comprised employee termination costs of USD 17 million and other third party costs of USD 11 million. 120 employees were identified in the original plan of whom 6 remained employed by the Group as at December 31, 2004, but all of whom are expected to leave in 2005. All other significant actions of this plan were completed in 2004.

In December 2002 charges of USD 10 million were incurred in conjunction with the plan to restructure the OTC business. The charges comprised employee termination costs of USD 9 million and other third party costs of USD 1 million. 90 positions were impacted by the restructuring all of whom have now left the Group. All other actions of this plan were completed in 2004.

In November 2004 charges of USD 10 million were incurred in conjunction with the plan to restructure the Pharma site at Huningue, France. The charges comprised employee termination costs of USD 10 million. 40 employees are impacted by the restructuring plan.

In December 2004 charges of USD 37 million were incurred in conjunction with various plans to restructure the Sandoz industrial operations in a number of different sites to reinforce the competitiveness of its business. The charges comprised employee termination costs of USD 19 million, impairment of property, plant & equipment of USD 16 million and other third party costs of USD 2 million. In total, 363 employees are impacted by the various restructuring plans.

The releases to income in 2004 and 2003 of USD 6 million and USD 12 million respectively were mainly due to settlement of liabilities at lower amounts than originally anticipated.

Property, plant & equipment impairments related to restructuring are determined based on the review of the carrying values of property, plant & equipment. Write-downs are recorded for property, plant & equipment impaired or related to activities to be restructured, divested or abandoned. The provision is transferred to accumulated depreciation as the property, plant & equipment are restructured, divested or abandoned.

Other third party costs are mainly associated with lease and other obligations due to the abandonment of certain facilities.

	Employee termination costs USD millions	Property, plant & equipment impairments USD millions	Other third party costs USD millions	Total USD millions
Balance at January 1, 2003	**46**	**15**	**37**	**98**
Cash payments	-27		-16	-43
Releases	-1	-2	-9	-12
Balance at December 31, 2003	**18**	**13**	**12**	**43**
Cash payments	-23		-3	-26
Releases			-6	-6
Additions	29	16	2	47
Transfer to property, plant & equipment or other balance sheet position		-29		-29
Translation effect, net			1	1
Balance at December 31, 2004	**24**		**6**	**30**

22. Cash flows arising from changes in working capital and other operating items included in operating cash flow

	2004 USD millions	2003 USD millions
Change in inventories	23	-78
Change in trade accounts receivable, net current assets and other operating items	-130	297
Change in trade accounts payable	239	238
Total	**132**	**457**

23. Acquisitions and divestments of businesses

a) Cash flow arising from major acquisitions and divestments

The following is a summary of the cash flow impact of the major divestments and acquisitions of businesses:

	2004 Acquisitions USD millions	2004 Divestments USD millions	2003 Acquisitions USD millions
Property, plant & equipment	-29	3	-1
Currently marketed products including trademarks	-262		-24
In-process research and development	-139		
Other intellectual property	-90		
Financial assets	-5		
Inventories	-69	4	-1
Trade accounts receivable and other current assets	-20		-1
Marketable securities, cash and short-term deposits	-6		
Long-term and short-term debt to third parties	8	-2	
Bank borrowing	86		
Trade accounts payable and other liabilities including deferred taxes	109	-3	36
Net identifiable assets acquired/divested	**-417**	**2**	**9**
Acquired liquidity	6		18
Sub-total	**-411**	**2**	**27**
Refinancing of acquired debt	-86		
Goodwill	-535		-303
Divestment loss		-1	
Translation effects			4
Net Cash Flow	**-1 032**	**1**	**-272**

Note 2 provides further information regarding changes in the consolidation scope. All acquisitions were for cash.

b) Assets and liabilities arising from the 2004 acquisitions

	Fair value USD millions	Revaluation due to purchase accounting USD millions	Acquiree's carrying amount USD millions
Property, plant & equipment	29	2	27
Currently marketed products including trademarks	262	137	125
In-process research and development	139	138	1
Other intellectual property	90	90	
Financial assets	5		5
Inventories	69	18	51
Trade accounts receivable and other current assets	20	1	19
Marketable securities, cash and short-term deposits	6		6
Long-term and short-term debt to third parties	-8		-8
Bank borrowing	-86		-86
Trade accounts payable and other liabilities including deferred taxes	-109	-74	-35
Net identifiable assets acquired	**417**	**312**	**105**
Less acquired liquidity	-6		
Refinancing of acquired debt	86		
Goodwill	535		
Total cash flow from acquisition of businesses	**1 032**		

Professional fees and related expenses incurred for the acquisitions amount to USD 12 million.

24. Changes in consolidated equity

a) The 2004 and 2003 changes in the fair value of financial instruments not recorded in the income statement and transfers to the income statement consist of the following:

	Fair value adjustments to marketable securities USD millions	Fair value of deferred cash flow hedges USD millions	Total USD millions
Fair value adjustments at January 1, 2003	**-299**	**113**	**-186**
Changes in fair value:			
available-for-sale marketable securities	146		146
cash flow hedges		26	26
other financial assets	21		21
associated companies' equity movements	41		41
Realized net losses transferred to the income statement:			
marketable securities sold	92		92
derivative financial instruments		-165	-165
other financial assets sold	1		1
Impaired marketable securities and other financial assets	146		146
Deferred tax on above	-74	33	-41
Fair value adjustments at December 31, 2003	**74**	**7**	**81**
Changes in fair value:			
available-for-sale marketable securities	22		22
other financial assets	19		19
associated companies' equity movements	26		26
Realized net losses transferred to the income statement:			
marketable securities sold	185		185
derivative financial instruments		-25	-25
other financial assets sold	-7		-7
Impaired marketable securities and other financial assets	101		101
Deferred tax on above	-23	-2	-25
Fair value adjustments at December 31, 2004	**397**	**-20**	**377**

b) The Group has investments in associated companies, principally Roche Holding AG and Chiron Corporation. The Group's share in movements in these companies' equity other than relating to net income, are allocated directly to the Group's consolidated statement of changes in equity.

c) The Board of Directors proposes a dividend of CHF 1.05 per share for 2004 totaling USD 2.2 billion for all dividend bearing shares (2003: CHF 1.00 per share amounting to USD 2.0 billion which was paid in 2004). The amount available for dividend distribution is based on the available distributable retained earnings of Novartis AG determined in accordance with the legal provisions of the Swiss Code of Obligations.

d) USD 1.0 billion of shares were acquired during 2004 under the Group's third and USD 0.7 billion under the Group's fourth share buy-back program on the second trading line. Overall in 2004, a total of 41 million shares have been repurchased for USD 1.9 billion, which includes shares bought on the first trading line. In addition, in 2004 there was a USD 10 million increase in equity due to a non-cash deferred tax credit on treasury share purchases.

e) During December 2001, Novartis sold a total of 55 million ten-year call options (Low Exercise Price Options "LEPOs") on Novartis shares, with an exercise price of CHF 0.01, to a third party. The Group received EUR 2.2 billion in proceeds (EUR 40 per LEPO). The Group accounted for the LEPOs as an increase in share premium at fair value less related issuance costs. Following changes in US GAAP and expected changes in IFRS rules, Novartis redeemed, in advance, these equity instruments on June 26, 2003.

f) During December 2001, Novartis sold a total of 55 million nine and ten-year put options on Novartis shares to a third party with an exercise price of EUR 51, the Group received EUR 0.6 billion in proceeds (EUR 11 per put option). The Group accounted for the option premium associated with the put options as an increase in share premium less related issuance costs. Following changes in US GAAP and expected changes in IFRS, Novartis redeemed, in advance, these equity instruments on June 26, 2003.

g) Pursuant to a resolution approved at the February 24, 2004 Annual General Meeting, 24.3 million shares with a nominal value of USD 9 million were cancelled (2003: 22.7 million shares were cancelled with a nominal value of USD 8 million).

h) As a result of the partial repayment of capital of a subsidiary in 2004 the Group has recycled USD 301 million of cumulative translation differences into financial income.

i) Share premium has been increased by USD 26 million to the required minimum under Swiss company law of 20% of the Novartis AG share capital.

25. Employee benefits

a) Defined benefit plans: The Group has, apart from the legally required social security schemes, numerous independent pension and other post-employment benefit plans. For certain Group companies, however, no independent assets exist for the pension and other long-term employee benefit obligations. In these cases the related liability is included in the balance sheet.

Defined benefit pension plans cover the majority of the Group's employees. The defined benefit obligations and related assets of all major plans are reappraised annually by independent actuaries. Plan assets are recorded at fair values. The defined benefit obligation of unfunded pension plans was USD 821 million at December 31, 2004 (2003: USD 753 million).

The following is a summary of the status of the main funded and unfunded pension and other post-employment benefit plans at December 31, 2004 and 2003:

	Pension plans		Other post-employment benefit plans	
	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions
Benefit obligation at beginning of the year	**13 865**	**11 845**	**720**	**645**
Service cost	351	285	24	19
Interest cost	580	559	42	40
Actuarial losses	1 401	695	91	85
Plan amendments	-41	15	-8	-31
Foreign currency translation	1 204	1 256	3	2
Benefit payments	-872	-790	-44	-40
Benefit obligation at end of the year	**16 488**	**13 865**	**828**	**720**
Fair value of plan assets at beginning of the year	**16 128**	**14 365**		
Actual return on plan assets	738	916		
Foreign currency translation	1 417	1 506		
Employer contributions	207	92		
Employee contributions	52	39		
Plan amendments	-7			
Benefit payments	-872	-790		
Fair value of plan assets at end of the year	**17 663**	**16 128**		
Funded Status	**1 175**	**2 263**	**-828**	**-720**
Unrecognized past service cost	6	6	-33	-39
Unrecognized net actuarial losses	2 168	777	366	299
Net asset/(liability) in the balance sheet	**3 349**	**3 046**	**-495**	**-460**

The movement in the net asset and the amounts recognized in the balance sheet were as follows:

	Pension plans		Other post-employment benefit plans	
	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions
Movement in net asset/(liability)				
Net asset/(liability) in the balance sheet at beginning of the year	**3 046**	**2 786**	**-460**	**-421**
Net periodic benefit cost	-198	-54	-75	-63
Employer contributions/benefit payments	207	92	44	40
Past service cost arisen in the current year	-19	-33	8	4
Plan amendments, net	34	-15	-8	-31
Foreign currency translation	279	270	-4	11
	3 349	**3 046**	**-495**	**-460**

	Pension plans		Other post-employment benefit plans	
Net asset/(liability) in the balance sheet at end of the year				
Amounts recognized in the balance sheet				
Prepaid benefit cost	4 337	3 976		
Accrued benefit liability	-988	-930	-495	-460
Net asset/(liability) in the balance sheet	**3 349**	**3 046**	**-495**	**-460**

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The net periodic benefit cost recorded in the income statement consisted of the following components:

	Pension plans		Other post-employment benefit plans	
	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions
Components of net periodic benefit cost				
Service cost	351	285	24	19
Interest cost	580	559	42	40
Expected returns on plan assets	-715	-796		
Employee contributions	-52	-39		
Recognized actuarial losses	53	72	23	8
Recognized past service cost	-19	-27	-14	-4
Net periodic benefit cost	**198**	**54**	**75**	**63**

The principal actuarial weighted average assumptions used for calculating defined benefit plans and other post-employment benefits are as follows:

	Pension plans		Other post-employment benefit plans	
	2004 %	2003 %	2004 %	2003 %
Weighted average assumptions used to determine benefit obligations at the end of year				
Discount rate	3.8	4.3	5.8	6.3
Expected rate of salary increase	2.8	2.8		
Weighted average assumptions used to determine net periodic pension cost for the year ended				
Discount rate	4.3	4.6	5.8	6.3
Expected return on plan assets	4.5	5.6		
Expected rate of salary increase	2.1	2.8		

The weighted average asset allocation of funded defined benefit plans at December 31, 2004 was as follows:

		Pension plans	
	Long-term target %	2004 %	2003 %
Equity securities	15 40	25	22
Debt securities	45 70	58	59
Real estate	0 15	8	8
Cash and other investments	0 15	9	11
Total		**100**	**100**

Strategic pension plan asset allocations are determined by the objective to achieve 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 current market and economic environments, actual asset allocation may periodically deviate from policy targets as determined by the plan trustees and by the Novartis pension board.

The expected future cash flows to be paid by the Group in respect of pension and other post-employment benefit plans at December 31, 2004 was as follows:

	Pension plans USD millions	Other post-employment benefit plans USD millions
Employer contributions		
2005 (estimated)	179	
Expected future benefit payments		
2005	1 004	44
2006	1 005	44
2007	1 021	46
2008	1 046	47
2009	1 061	49
2010 2014	5 483	268

The health care cost trend rate assumptions for other post-employment benefits are as follows:

Health care cost trend rate assumptions used	2004	2003
Health care cost trend rate assumed for next year	**11.0**%	9.0%
Rate to which the cost trend rate is assumed to decline	**4.8**%	4.8%
Year that the rate reaches the ultimate trend rate	**2012**	2012

A one-percentage-point change in the assumed health care cost trend rates compared to those used for 2004 would have the following effects:

	1% point increase USD millions	1% point decrease USD millions
Effects on total of service and interest cost components	9	-7
Effect on post-employment benefit obligations	112	-93

The number of Novartis AG shares held by pension and similar benefit funds at December 31, 2004 was 30.9 million shares with a market value of USD 1.6 billion (2003: 31.5 million shares with a market value of USD 1.3 billion). These funds sold 0.6 million Novartis AG shares during the year ended December 31, 2004 (2003: nil). The amount of dividends received on Novartis AG shares held as plan assets by these funds were USD 25 million for the year ended December 31, 2004 (2003: USD 22 million).

b) Defined contribution plans: In some Group companies employees are covered by defined contribution plans and other long-term employee benefits. The liability of the Group for these benefits is reported in other long-term employee benefits and deferred compensation and at December 31, 2004 amounts to USD 324 million (2003: USD 183 million). In 2004 contributions charged to the consolidated income statement for the defined contribution plans were USD 94 million (2003: USD 84 million).

26. Employee share participation plans

Employee and management share participation plans can be separated into share option plans and share plans.

Share option plans

In 2004, the Board of Directors adopted the following modification to the Share Option Plans. Participants have the choice to receive their share option award in the form of share options, or restricted shares or in equal parts in share options and restricted shares. An exchange ratio of share options to shares is set by the Board. For 2004, four share options could be exchanged for one restricted share. Shares granted have a restriction period identical to the vesting period of the share options. Executives and employees participating in the Share Option Plans were granted 792 470 shares for the Novartis Share Option Plan and 1 439 567 shares for the Novartis US ADS Incentive Plan.

a) Novartis Share Option Plan: Under the current plan, tradable share options are granted annually as part of the remuneration of executives and other employees, as selected by the Board's Compensation Committee. In 2004, except for Switzerland, the vesting period was changed from a two-year vesting period to a three-year vesting period and the term was changed for all grants from nine years to ten years. Each option entitles the holder to acquire one Novartis AG share at a predetermined exercise price. In May 2001, the Novartis AG shares were split 40 to 1. Options granted prior to that date entitled the holder to acquire 40 Novartis AG shares per option. The figures in the tables below have been restated for grants before 2002 to reflect this change. The number of options granted depends on the performance of the individuals and the Business Unit in which they work.

The weighted average prices in the table below are translated from Swiss Francs into USD Dollars at historical rates for the granted, exercised, and cancelled figures. The year-end prices are translated using the corresponding year-end rates.

	2004		2003	
	Options (millions)	Weighted average exercise price (USD)	Options (millions)	Weighted average exercise price (USD)
Options outstanding at January 1	**21.0**	**44.3**	**11.5**	**43.6**
Granted	4.9	46.1	9.8	36.4
Exercised	-6.3	37.6	-0.1	36.0
Cancelled	-1.0	37.4	-0.2	36.0
Outstanding at December 31	**18.6**	**48.1**	**21.0**	**44.3**
Exercisable at December 31	**5.0**	**54.6**	**6.0**	**47.8**
Weighted average fair value of options granted during the year (USD)		11		15

All options were granted at an exercise price which was equal to or greater than the market price of the Group's shares at the grant date.

The following table summarizes information about share options outstanding at December 31, 2004:

	Options outstanding			Options exercisable	
Range of exercise prices (USD)	Number outstanding (millions)	Average remaining contractual life (years)	Weighted average exercise price (USD)	Number exercisable (millions)	Weighted average exercise price (USD)
35 39	0.2	2.1	37.4	0.2	37.4
40 44	9.0	7.1	43.1	0.1	42.8
45 49	0.6	4.2	45.2	0.5	45.2
50 54	7.5	7.4	52.1	2.8	54.7
55 59					
60 64	1.3	4.5	61.2	1.4	61.2
Total	**18.6**	**6.9**	**48.1**	**5.0**	**54.6**

b) Novartis US ADS Incentive Plan: The US ADS Incentive Plan was introduced in 2001 and supplements the previous US Management ADS Appreciation Cash Plan. Under the US ADS Incentive Plan, options are granted annually on Novartis ADSs at a pre-determined exercise price as part of the remuneration of US-based executives and other selected employees. As of 2004, options granted under this plan are tradable. The number of options granted depends on the performance of the individuals and of the Division/Business Unit in which they work. Options are exercisable after three years and terminate after ten years. Under the previous US Management ADS Appreciation Cash Plan, Novartis US-based employees in the USA were entitled to cash compensation equivalent to the increase in the value of Novartis ADSs compared to the market price of the ADSs at the grant date.

	2004		2003	
	ADS options (millions)	Weighted average exercise price (USD)	ADS options (millions)	Weighted average exercise price (USD)
Options outstanding at January 1	**40.6**	**37.7**	**23.2**	**39.3**
Granted	9.2	46.1	20.0	36.4
Exercised	-2.4	40.8	-0.1	41.8
Cancelled	-3.3	38.5	-2.5	38.0
Outstanding at December 31	**44.1**	**39.1**	**40.6**	**37.7**
Exercisable at December 31	**6.3**	**42.5**	**1.2**	**38.8**
Weighted average fair value of options granted during the year (USD)		16		17

All ADS options were granted at an exercise price which was equal to the market price of the ADS at the grant date.

The following table summarizes information about ADS options outstanding at December 31, 2004:

	ADS options outstanding			ADS options exercisable	
Range of exercise prices (USD)	Number outstanding	Average remaining	Weighted average	Number exercisable	Weighted average

	ADS options outstanding			ADS options exercisable	
	(millions)	contractual life (years)	exercise price (USD)	(millions)	exercise price (USD)
30 34	0.1	5.2	33.9	0.1	34.2
35 39	30.6	6.7	36.8	1.0	38.2
40 44	5.3	5.2	41.9	5.1	43.4
45 49	8.1	8.1	46.1	0.1	45.4
Total	**44.1**	**6.8**	**39.1**	**6.3**	**42.5**

Share plans

a) Long-Term Performance Plan: This plan is offered to selected executives. Under the Long-Term Performance Plan, participants are awarded the right to earn Novartis AG shares. Actual payouts, if any, are determined with the help of a formula which measures, among other things, Novartis performance using economic value added relative to predetermined strategic plan targets. Additional functional objectives may be considered in the evaluation of performance. If performance is below the threshold level of the pre-determined targets, no shares will be earned. During 2004 a total of 411 041 shares (2003: 507 507 shares) were granted to executives.

b) Leveraged Share Savings Plan: Participants under this plan can make an election to receive all or part of their annual incentive award in Novartis AG shares. Shares received under the plan are blocked for a five year period after the grant date. At the end of the blocking period, Novartis will match the respective shares on a one-for-one basis. During 2004, 254 390 shares (2003: 279 619 shares) were granted to participants.

c) Swiss Employee Share Ownership Plan: The Swiss Employee Share Ownership Plan (ESOP) provides for the annual variable incentive to be delivered wholly in the form of Novartis AG shares at a fixed date at a fair market value at that date. Employees are free to sell 50% or 100% of these shares immediately. Shares received under the plan have a three year blocking period and are matched with one share for every two shares held at the end of the blocking period. In 2004 the Swiss employees received 3 080 673 shares (2003: 3 942 687 shares) under this scheme.

d) Restricted Share Plan: Under the Restricted Share Plan, employees may be granted restricted share awards either as a result of a general grant or as a result of an award based on having met certain performance criteria. Shares granted under this Plan generally have a five-year vesting period. During 2004 a total of 485 609 shares (2003: 390 053 shares) were granted to executives and selected employees.

Movements in Novartis AG shares held by the Novartis Foundation for Employee Participation were as follows:

	2004 Number of shares (000)	2003 Number of shares (000)
January 1	**93 300**	**95 072**
Shares bought, net	857	1 163
Shares distributed to employees	-6 839	-2 935
December 31	87 318	93 300

The market value of the Novartis AG shares held by the Foundation at December 31, 2004 was USD 4.4 billion (2003: USD 4.2 billion).

27. Related parties

The Novartis Group has formed certain foundations with the purposes of advancing employee welfare, employee share participation, employee education, research and charitable contributions. The charitable foundations foster health care and social development in rural countries. Each of these foundations is autonomous and its board is responsible for its respective administration in accordance with the foundation's purpose and applicable law.

The Novartis Foundation for Employee Participation has not been included in the consolidated financial statements prepared under IFRS as Interpretation No. 12 of the Standing Interpretations Committee exempts post-employment and equity compensation plans from its scope. The total assets of this Foundation as of December 31, 2004 included 87.3 million shares of Novartis AG with a market value of USD 4.4 billion. As of December 31, 2003, the assets included 93.3 million Novartis shares with a market value of USD 4.2 billion. This Foundation is consolidated under US GAAP and is included as a reconciling item in the US GAAP reconciliation.

In 2004, the Group made short-term deposits totaling USD 713 million with the above mentioned foundations and received short-term loans totaling USD 16 million from them. In 2003, the Group made short-term deposits totaling USD 651 million with the foundations and received short-term loans totaling USD 8 million from them.

In addition, there are approximately fifteen other foundations that were established for charitable purposes that have not been consolidated as the Group does not receive a benefit therefrom. As of December 31, 2004 these foundations held approximately 6.1 million shares of Novartis, with a cost of approximately USD 35 million.

See notes 5, 25 and 26 to the consolidated financial statements for disclosure of other related party transactions and balances.

28. Commitments and contingencies

Spin-off of Novartis Agribusiness: All remaining significant matters in connection with the 1999 Master Agreement between Novartis AG and AstraZeneca Plc for the spin-off and merger of their respective agrochemical businesses into Syngenta AG have been completed during 2003.

Chiron Corporation: In connection with its original investment in January 1996 in Chiron:

Novartis has agreed to purchase up to USD 500 million of new Chiron equity at fair value, at Chiron's request. To date, Chiron has made no such request.

Novartis has agreed to guarantee up to USD 703 million of Chiron debt. Utilization of the guarantee in excess of USD 403 million reduces the equity put amount mentioned above. Novartis' obligation under the guarantee is only effective if Chiron defaults on the debt.

Chiron has granted to Novartis an option to purchase newly issued shares of equity securities directly from Chiron at fair market value. Novartis may exercise this option at any time subject to certain conditions, including a limitation on Novartis' aggregate ownership not to exceed 55% of Chiron's then outstanding common stock.

The outstanding equity put and guarantee expire no later than 2011.

Leasing commitments:	**2004 USD millions**
Commitments arising from fixed-term operational leases in effect at December 31 are as follows:	
2005	233
2006	181
2007	123
2008	80
2009	63
Thereafter	246
Total	**926**
Expense of current year	**287**

Research & Development commitments: The Group has entered into long-term research agreements with various institutions including potential milestone payments. As of December 31, 2004 they are as follows:

	Unconditional commitments 2004 USD millions	Potential milestone payments 2004 USD millions	Total 2004 USD millions
2005	285	91	376
2006	169	70	239
2007	76	88	164
2008	75	67	142
2009	38	133	171
Thereafter	22	133	155
Total	**665**	**582**	**1 247**

Other commitments: The Novartis Group entered into various purchase commitments for services and materials as well as for equipment as part of the ordinary business. These commitments are not in excess of current market prices in all material respects and reflect normal business operations.

Contingencies: Group companies have to observe the laws, government orders and regulations of the country in which they operate. A number of them are currently involved in administrative proceedings arising out of the normal conduct of their business. In the opinion of Group management, however, the outcome of these actions will not materially affect the Group's financial position, result of operations or cash flow.

The material components of the Group's potential environmental liability consist of a risk assessment based on 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.

The Group is also subject to 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 19 contains more extensive discussion of these matters.

The Group does not expect the resolution of such uncertainties to have a material effect on the consolidated financial statements.

29. Principal currency translation rates

		2004 USD	2003 USD
Year end rates used for the consolidated balance sheets:			
	1 CHF	0.881	0.800
	1 EUR	1.362	1.247
	1 GBP	1.923	1.774
	100 JPY	0.964	0.935

		2004 USD	2003 USD
Average rates of the year used for the consolidated income and cash flow statements:			
	1 CHF	0.805	0.745
	1 EUR	1.243	1.131
	1 GBP	1.831	1.636
	100 JPY	0.926	0.867

30. Events subsequent to the December 31, 2004 balance sheet date

The 2004 consolidated financial statements of the Novartis Group were approved by the Novartis AG Board of Directors on January 19, 2005.

31. Principal Group Subsidiaries and Associated Companies

As at December 31, 2004

	Share/paid-in capital[1]	Equity interest %	Activities		
Argentina					
Novartis Argentina S.A., Buenos Aires	ARS 230.6 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			/*\
Novartis Consumer Health Australasia Pty Ltd., Mulgrave, Victoria	AUD 7.6 m	100		Δ	
Novartis Animal Health Australasia Pty Ltd., North Ryde, NSW	AUD 3.0 m	100			/*\
Austria					
Novartis Pharma GmbH, Vienna	EUR 1.1 m	100			
Novartis Institutes for BioMedical Research GmbH & Co KG, Vienna	EUR 10.9 m	100			/*\
Sandoz GmbH, Vienna	EUR 100 000	100	/*/		
Sandoz GmbH, Kundl	EUR 32.7 m	100	/*/	Δ	/*\
Novartis Animal Health GmbH, Kundl	EUR 37 000	100			
Bangladesh					
Novartis (Bangladesh) Limited, Dhaka	BDT 162.5 m	60		Δ	
Belgium					
N.V. Novartis Management Services S.A., Vilvoorde	EUR7.5 m	100	/*/		
N.V. Novartis Pharma S.A., Vilvoorde	EUR 7.1 m	100			
N.V. Novartis Consumer Health S.A., Brussels	EUR 4.3 m	100			
N.V. Nutrition & Santé Benelux S.A., Brussels	EUR 509 630	97			
N.V. CIBA Vision Benelux S.A., Mechelen	EUR 62 000	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 10.0 m	100	/*/		
Brazil					
Novartis Biociências S.A., São Paulo	BRL 186.7 m	100		Δ	
Novartis Saúde Animal Ltda., São Paulo	BRL 19.9 m	100		Δ	
Canada					
Novartis Pharmaceuticals Canada Inc., Dorval/Montreal	CAD 0[2]	100			/*\
Sabex Inc., Boucherville, Quebec	CAD 2	100		Δ	/*\
Novartis Consumer Health Canada Inc., Mississauga, Ontario	CAD 2	100			
CIBA Vision Canada Inc., Mississauga, Ontario	CAD 1	100		Δ	
Chile					
Novartis Chile S.A., Santiago de Chile	CLP 2.0 bn	100			

	Share/paid-in capital[1]	Equity interest %	Activities		
China					
Beijing Novartis Pharma Ltd., Beijing	CNY 111.3 m	78		Δ	
Novartis Pharmaceuticals (HK) Limited, Hong Kong	HKD 200	100			
Shanghai Novartis Trading Ltd., Shanghai	CNY 20.3 m	100			
Colombia					
Novartis de Colombia S.A., Santafé de Bogotá	COP 20.9 bn	100		Δ	
Croatia					
Lek Zagreb d.o.o., Zagreb	HRK 25.6 m	100			
Czech Republic					
Novartis s.r.o., Prague	CZK 51.5 m	100			
Denmark					
Novartis Healthcare A/S, Copenhagen	DKK 10.0 m	100			
Ecuador					
Novartis Ecuador S.A., Quito	USD 209 193	100			
Egypt					
Novartis Pharma S.A.E., Cairo	EGP 33.8 m	99		Δ	
Novartis Egypt (Healthcare) S.A.E., Cairo	EGP 250 000	95			
Finland					
Novartis Finland Oy, Espoo	EUR 459 000	100			
France					
Novartis Groupe France S.A., Rueil-Malmaison	EUR 103 m	100	/*/		
Novartis Pharma S.A.S., Rueil-Malmaison	EUR 43.4 m	100		Δ	/*\
Sandoz S.A.S., Levallois-Perret	EUR 2.6 m	100			
Novartis Santé Familiale S.A.S., Rueil-Malmaison	EUR 21.9 m	100		Δ	
Novartis Santé Animale S.A.S., Rueil-Malmaison	EUR 900 000	100		Δ	
Novartis Nutrition S.A.S., Revel	EUR 300 000	100		Δ	
Nutrition et Santé S.A.S., Revel	EUR 30.2 m	97	/*/	Δ	/*\
CIBA Vision S.A.S., Blagnac	EUR 1.8 m	100			
Germany					
Novartis Deutschland GmbH, Wehr	EUR 35.8 m	100	/*/		
Novartis Pharma GmbH, Nuremberg	EUR 25.6 m	100			/*\
Novartis Pharma Produktions GmbH, Wehr	EUR 2.0 m	100		Δ	
Sandoz Pharmaceuticals GmbH, Ismaning	EUR 5.1 m	100		Δ	
Sandoz Industrial Products GmbH, Frankfurt a.M.	EUR 2.6 m	100		Δ	
Novartis Consumer Health GmbH, Munich	EUR 14.6 m	100		Δ	/*\
Novartis Nutrition GmbH, Munich	EUR 23.5 m	100		Δ	/*\
CIBA Vision Vertriebs GmbH, Grossostheim	EUR 2.6 m	100			
CIBA Vision GmbH, Grosswallstadt	EUR 15.4 m	100		Δ	/*\
Gibraltar					
Novista Insurance Limited, Gibraltar	CHF 130.0 m	100	/*/		

	Share/paid-in capital[1]	Equity interest %	Activities		
Great Britain					
Novartis UK Limited, Frimley/Camberley	GBP 25.5 m	100	/*/		
Novartis Pharmaceuticals UK Limited, Frimley/Camberley	GBP 5.4 m	100		Δ	/*\
Novartis Grimsby Limited, Frimley/Camberley	GBP 230.2 m	100		Δ	
Sandoz Limited, Bordon	GBP 2.0 m	100			
Novartis Consumer Health UK Limited, Horsham	GBP 25 000	100		Δ	
Novartis Animal Health UK Limited, Royston	GBP 100 000	100			/*\
CIBA Vision (UK) Limited, Southampton	GBP 550 000	100			
Greece					
Novartis (Hellas) S.A.C.I., Athens	EUR 14.6 m	100			
Hungary					
Novartis Hungary Healthcare Limited Liability Company, Budapest	HUF 545.6 m	100			
India					
Novartis India Limited, Mumbai	INR 159.8 m	51		Δ	
Sandoz Private Limited, Mumbai	INR 32.0 m	100		Δ	
Indonesia					
PT Novartis Biochemie, Jakarta	IDR 7.7 bn	69		Δ	
PT CIBA Vision Batam, Batam	IDR 11.9 bn	100		Δ	
Ireland					
Novartis Ireland Limited, Dublin	EUR 25 000	100			
Novartis Ringaskiddy Limited, Ringaskiddy, County Cork	EUR 2.0 m	100		Δ	
Italy					
Novartis Farma S.p.A., Origgio	EUR 18.2 m	100	/*/	Δ	/*\
Sandoz S.p.A., Origgio	EUR 390 000	100			
Sandoz Industrial Products S.p.A., Rovereto	EUR 2.6 m	100		Δ	
Novartis Consumer Health S.p.A., Origgio	EUR 2.9 m	100			
Nutrition & Santé Italia S.p.A., Origgio	EUR 1.7 m	97			
CIBA Vision S.r.l., Marcon	EUR 2.4 m	100			
Japan					
Novartis Pharma K.K., Tokyo	JPY 6.0 bn	100	/*/		/*\
Ciba-Geigy Japan Limited, Tokyo	JPY 8.5 bn	100		Δ	
CIBA Vision K.K., Tokyo	JPY 495.0 m	100			
Liechtenstein					
Novista Insurance Aktiengesellschaft, Vaduz	CHF 5.0 m	100	/*/		
Luxembourg					
Novartis Investments S.à r.l., Luxembourg	USD 2.6 bn	100	/*/		
Malaysia					
Novartis Corporation (Malaysia) Sdn. Bhd., Kuala Lumpur	MYR 3.3 m	70			
Mexico					
Novartis Farmacéutica, S.A. de C.V., Mexico City	MXN 287.7 m	100	/*/	Δ	

	Share/paid-in capital[1]	Equity interest %	Activities
Productos Gerber, S.A. de C.V., Querétaro	MXN 12.5 m	100	Δ

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	Share/paid-in capital[1]	Equity interest %	Activities		
Netherlands					
Novartis Netherlands B.V., Arnhem	EUR 1.4 m	100	/*/		
Novartis Pharma B.V., Arnhem	EUR 4.5 m	100			
Sandoz B.V., Weesp	EUR 907 570	100		Δ	
Novartis Consumer Health B.V., Breda	EUR 23 830	100		Δ	
Netherlands Antilles					
Sandoz N.V., Curação	USD 6 000	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	98		Δ	
Panama					
Novartis Pharma (Logistics), Inc., Panama	USD 10 000	100			
Philippines					
Novartis Healthcare Philippines, Inc., Makati/Manila	PHP 298.8 m	100			
Poland					
Novartis Poland Sp. z o.o., Warsaw	PLN 44.2 m	100			
Lek S.A., Strykow	PLN 2.6 m	100		Δ	
Alima-Gerber S.A., Warsaw	PLN 57.1 m	100		Δ	
Portugal					
Novartis Portugal SGPS Lda., Sintra	EUR 500 000	100	/*/		
Novartis Farma Produtos Farmacêuticos S.A., Sintra	EUR 2.4 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		Δ	
Gerber Products Company of Puerto Rico, Inc., Carolina	USD 100 000	100		Δ	
Russian Federation					
Novartis Pharma ZAO, Moscow	RUR 17.5 m	100			
Singapore					
Novartis Institute for Tropical Diseases Pte Ltd., Singapore	SGD 2 004	100			/*\
Slovenia					
Lek Pharmaceuticals d.d., Ljubljana	SIT 11.6 bn	100	/*/	Δ	/*\
South Africa					
Novartis South Africa (Pty) Ltd., Spartan/Johannesburg	ZAR 86.4 m	100		Δ	
South Korea					

	Share/paid-in capital[1]	Equity interest %	Activities
Novartis Korea Ltd., Seoul	KRW 24.5 bn	99	
	200		

	Share/paid-in capital[1]	Equity interest %	Activities		
Spain					
Novartis Farmacéutica, S.A., Barcelona	EUR 63.0 m	100	/*/	Δ	
Sandoz Farmacéutica, S.A., Barcelona	EUR 270 450	100			
Sandoz Industrial Products, S.A., Les Franqueses del Vallés/Barcelona	EUR 9.3 m	100		Δ	/*\
Novartis Consumer Health, S.A., Barcelona	EUR 876 919	100			
Nutrition & Santé Iberia S.L., Barcelona	EUR 266 860	97		Δ	/*\
CIBA Vision, S.A., Barcelona	EUR 1.4 m	100			
Sweden					
Novartis Sverige Participations AB, Täby/Stockholm	SEK 51.0 m	100	/*/		
Novartis Sverige AB, Täby/Stockholm	SEK 5.0 m	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 Securities AG, Basel	CHF 50.0 m	100	/*/		
Novartis Research Foundation, Basel	CHF 29.3 m	100			/*\
Foundation Novartis for Management Development, Basel	CHF 100 000	100	/*/		
Roche Holding AG, Basel	CHF 160.0 m	33	/*/	Δ	/*\
Novartis Pharma AG, Basel	CHF 350.0 m	100	/*/	Δ	/*\
Novartis Pharma Services AG, Basel	CHF 50 000	100			
Novartis Pharma Schweizerhalle AG, Schweizerhalle	CHF 18.9 m	100		Δ	
Novartis Pharma Stein AG, Stein	CHF 251 000	100		Δ	/*\
Novartis Pharma Schweiz AG, Bern	CHF 5.0 m	100			
Novartis Consumer Health S.A., Nyon	CHF 30.0 m	100	/*/	Δ	/*\
Novartis Consumer Health Schweiz AG, Bern	CHF 250 000	100			
Novartis Animal Health AG, Basel	CHF 101 000	100	/*/	Δ	/*\
Novartis Centre de Recherche Santé Animale S.A., St.-Aubin	CHF 250 000	100			/*\
Novartis Nutrition AG, Bern	CHF 40.0 m	100	/*/		
SANUTRI AG, Bern	CHF 31.6 m	97	/*/		
CIBA Vision AG, Embrach	CHF 300 000	100	/*/		
Taiwan					
Novartis (Taiwan) Co., Ltd., Taipei	TWD 170.0 m	100		Δ	
Thailand					
Novartis (Thailand) Limited, Bangkok	THB 230.0 m	100			
Turkey					
Novartis Saglik, Gida ve Tarim Ürünleri Sanayi ve Ticaret A.S., Istanbul	TRL 98.0 tr	100		Δ	

	Share/paid-in capital[1]	Equity interest %	Activities		
USA					
Novartis Corporation, Florham Park, NJ	USD 72.2 m	100	/*/		
Novartis Finance Corporation, New York, NY	USD 1.7 bn	100	/*/		
Novartis Pharmaceuticals Corporation, East Hanover, NJ	USD 5.2 m	100		Δ	/*\
Novartis Ophthalmics, Inc., Duluth, GA	USD 1 000	100		Δ	
Novartis Institutes for BioMedical Research, Inc., Cambridge, MA	USD 1	100			/*\
Novartis Institute for Functional Genomics, Inc., San Diego, CA	USD 1 000	100			/*\
Chiron Corporation, Emeryville, CA	USD 1.9 m	42	/*/	Δ	/*\
Idenix Pharmaceuticals, Inc., Cambridge, MA	USD 47 954	57			/*\
Sandoz Inc., Princeton, NJ	USD 25 000	100		Δ	/*\
Lek Pharmaceuticals, Inc., Wilmington, NC	USD 200 000	100			
Novartis Consumer Health, Inc., Parsippany, NJ	USD 0[2]	100		Δ	/*\
Novartis Animal Health US, Inc., Greensboro, NC	USD 100	100		Δ	/*\
Novartis Nutrition Corporation, Minneapolis, MN	USD 50 000	100		Δ	/*\
Novartis Medical Health, Inc., Minneapolis, MN	USD 1 000	100			
Gerber Products Company, Fremont, MI	USD 10	100	/*/	Δ	/*\
Gerber Life Insurance Company, White Plains, NY	USD 2.5 m	100			
CIBA Vision Corporation, Duluth, GA	USD 301.3 m	100	/*/	Δ	/*\
Venezuela					
Novartis de Venezuela S.A., Caracas	VEB 1.4 bn	100			

In addition, the Group is represented by subsidiaries, associated companies or joint ventures in the following countries: Algeria, Cayman Islands, Costa Rica, Dominican Republic, Guatemala, the former Yugoslav Republic of Macedonia, Morocco, Nigeria, Peru, Romania, Serbia and Montenegro and Uruguay.

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.

Δ

Production: This entity performs manufacturing and/or production activities for the Group.

/*\

Research: This entity performs research and development activities for the Group.

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 of no par value.

m

= million; bn = billion; tr = trillion.

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Reconciliation to US GAAP

32. Significant Differences Between IFRS and United States Generally Accepted Accounting Principles (US GAAP)

The Group's consolidated financial statements have been prepared in accordance with IFRS, which as applied by the Group, differs in certain significant respects from US GAAP. The effects of the application of US GAAP to net income and equity are set out in the tables below:

	Notes	2004 USD millions	2003 USD millions
Net income under IFRS		**5 767**	**5 016**
US GAAP adjustments:			
Purchase accounting: Ciba-Geigy	a	-366	-339
Purchase accounting: other acquisitions	b	17	-175
Purchase accounting: IFRS goodwill amortization	c	170	172
Available-for-sale securities and derivative financial instruments	d	-183	-240
Pension provisions	e	-6	-18
Share-based compensation	f	-326	-273
Consolidation of share-based employee compensation foundation	g	-4	-3
Deferred taxes	h	100	-63
In-process research and development	i	-55	-260
Reversal of currency translation gain	j	-301	
Other	l	13	-20
Deferred tax effect on US GAAP adjustments		163	-9
Net income under US GAAP		**4 989**	**3 788**
Basic earnings per share under US GAAP (USD)		2.12	1.59
Diluted earnings per share under US GAAP (USD)		2.11	1.57

	Notes	December 31, 2004 USD millions	December 31, 2003 USD millions
Equity under IFRS		**33 783**	**30 429**
US GAAP adjustments:			
Purchase accounting: Ciba-Geigy	a	3 049	3 131
Purchase accounting: other acquisitions	b	2 803	2 808
Purchase accounting: IFRS goodwill amortization	c	554	327
Available-for-sale securities and derivative financial instruments	d	-64	
Pension provisions	e	1 346	1 209
Share-based compensation	f	-129	-96
Consolidation of share-based employee compensation foundation	g	-864	-728
Deferred taxes	h	-510	-609
In-process research and development	i	-1 489	-1 338
Minimum pension liability	k	-501	-37
Other	l	-45	-56
Deferred tax effect on US GAAP adjustments		168	-162
Total US GAAP adjustments		**4 318**	**4 449**
Equity under US GAAP		**38 101**	**34 878**

	Notes	December 31, 2004 USD millions	December 31, 2003 USD millions
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Components of equity in accordance with US GAAP

	December 31, 2004 USD millions	December 31, 2003 USD millions
Share capital	1 008	1 017
Treasury shares, at nominal value	-154	-151
Share premium	1 103	743
Retained earnings	32 178	31 069
Accumulated other comprehensive income:		
Currency translation adjustment	3 561	1 940
Unrealized market value adjustment on available-for-sale securities, net of taxes of USD -78 million (2003: USD -62 million)	725	275
Unrealized market value adjustment on cash-flow hedges, net of taxes of USD 5 million (2003: USD 7 million)	-20	7
Minimum pension liability, net of taxes of USD 201 million (2003: USD 15 million)	-300	-22
December 31	**38 101**	**34 878**

Changes in US GAAP equity

	2004 USD millions	2003 USD millions
January 1	**34 878**	**33 225**
Net unrealized market value adjustment	397	381
Increase in share premium related to share-based compensation	334	373
Minimum pension liability	-278	-22
Associated companies' equity movement	50	10
Foreign currency translation adjustment	1 621	2 735
Net income for the year under US GAAP	4 989	3 788
Dividends paid	-1 888	-1 654
Acquisition of treasury shares	-2 002	-500
Redemption of call and put options on Novartis shares		-3 458
December 31	**38 101**	**34 878**

Notes to the US GAAP Reconciliation

a) Purchase accounting: The accounting treatment for the 1996 merger of Sandoz and Ciba-Geigy under IFRS is different from the accounting treatment under US GAAP. For IFRS purposes the merger was accounted under the uniting of interests method, however, for US GAAP the merger did not meet all of the required conditions of Accounting Principles Board Opinion No. 16 for a pooling of interests and therefore is accounted for as a purchase under US GAAP. Under US GAAP, Sandoz would be deemed to be the acquirer with the assets and liabilities of Ciba-Geigy being recorded at their estimated fair values and the results of Ciba-Geigy being included from December 20, 1996. Under US GAAP, the cost of Ciba-Geigy to Sandoz was approximately USD 28.5 billion. All of the purchase price was allocated to identified property, plant & equipment and intangible assets with a definite useful life. There was therefore no residual goodwill arising from accounting for this transaction.

The components of equity and the income statement adjustments related to the US GAAP purchase accounting adjustment for 2004 and 2003 are as follows:

	2004 Components to reconcile		
	Net income USD millions	Foreign currency translation adjustment USD millions	Equity USD millions
Intangible assets related to marketed products	-518	369	3 972
Property, plant & equipment	55	-67	-726
Inventory		58	627
Other identifiable intangibles	-25	5	53
Investments		14	149
Deferred taxes	122	-95	-1 026
Total adjustment	**-366**	**284**	**3 049**

	2003 Components to reconcile		
	Net income USD millions	Foreign currency translation adjustment USD millions	Equity USD millions
Intangible assets related to marketed products	-478	472	4 121
Property, plant & equipment	51	-81	-714
Inventory		62	569
Other identifiable intangibles	-25	9	73
Investments		15	135
Deferred taxes	113	-120	-1 053
Total adjustment	**-339**	**357**	**3 131**

The intangible assets related to marketed products and other identifiable intangibles are being amortized over 15 and 10 years, respectively.

b) Purchase accounting: other acquisitions: Prior to January 1, 1995, the Group wrote off all goodwill, being the difference between the purchase price and the aggregate fair value of property, plant & equipment and intangible assets and liabilities acquired in a business combination, directly to equity, in accordance with IFRS existing at that time. The adoption of IAS 22 (revised 1993) required that goodwill was capitalized and amortized, however, did not require prior period restatement. The material component of goodwill recorded directly to equity, under IFRS prior to January 1, 1995, related to the acquisition of Gerber Products in 1994. The net book value of goodwill under US GAAP attributable to Gerber Products was USD 2 870 million as of December 31, 2004 and 2003. In accordance with IAS 22, the difference between the purchase price and the aggregate fair value of property, plant & equipment and intangible assets and liabilities acquired in a business combination is capitalized as goodwill and amortized over its useful life, not to exceed 20 years. Under US GAAP, the difference between the purchase price and fair value of net assets acquired as part of a pre-1995 business combination is also capitalized as goodwill. Effective January 1, 2002, the Group adopted Statement of Financial Accounting Standards No. 142 (SFAS 142), *Goodwill and other Intangible Assets.* SFAS 142 requires that all goodwill and other intangible assets existing on implementation on January 1, 2002 are tested for impairment and thereafter are assessed for impairment on an annual basis. From January 1, 2002 goodwill and intangible assets deemed to have an indefinite useful life are no longer amortized on a regular basis. For the purpose of the reconciliation to US GAAP, goodwill was generally amortized through the income statement over an estimated useful life of 20 years up to December 31, 2001. Therefore, there is no amortization charge since 2002 under US GAAP.

In 2004, as a result of adverse changes in the operating environment of certain businesses, or of the decision to divest certain products, in accordance with SFAS 142, non-cash charges of USD 42 million were recorded (2003: USD 119 million) for impairments of goodwill and divestments. Gerber goodwill was also reviewed for potential impairments in 2004 however, this did not result in the Group needing to record a charge. The process of evaluating goodwill involves making judgments and estimates relating to the projection and discounting of future cash flows. This evaluation is sensitive to changes in the discount rate. An increase to discount rates is likely to result in a significant impairment charge under US GAAP.

Also included are US GAAP adjustments to the equity method accounting results of Roche and Chiron totaling USD 12 million income (2003: USD 56 million expense). The impact of the additional impairment charges, the Roche and Chiron adjustments and other adjustments totaling a net income of USD 47 million resulted in a USD 17 million income in 2004 (2003: USD 175 million expense). Note m (ix) provides further disclosure regarding impairment under US GAAP.

c) Purchase accounting: IFRS goodwill amortization: As described above, as of January 1, 2002, goodwill is no longer amortized but only subject to impairment testing under US GAAP. The corresponding reversal of the regular goodwill amortization under IFRS resulted in an additional income in the US GAAP reconciliation of USD 170 million (2003: USD 172 million).

d) Available-for-sale marketable securities and derivative financial instruments: Under IFRS, fair value changes which relate to the underlying movement in exchange rates on available-for-sale debt securities have to be recognized in the income statement. Under US GAAP, SFAS 133 requires the entire movement in the fair value of the securities to be recognized in equity, including any part that relates to foreign exchange movements. This resulted in US GAAP income being reduced by USD 181 million (2003: USD 228 million).

Prior to the adoption of IAS 39 from January 1, 2001 in the IFRS consolidated financial statements, investments were stated at the lower of cost or market value on an individual basis. This results in a different amount of unrealized gains or losses being recorded in the separate component of equity under US GAAP compared to IFRS and an additional expense under US GAAP on disposal of available-for-sale securities during 2004 and 2003. This resulted in an additional expense of USD 2 million (2003: USD 12 million).

The above differences result in an additional US GAAP expense of USD 183 million in 2004 (2003: USD 240 million).

In 2004, the Group recorded a revaluation to fair value in its equity on privately held companies under IFRS. Under US GAAP such investments have to be accounted for at cost. Accordingly, USD 64 million booked in the IFRS equity was reversed.

e) Pension provisions: Under IFRS, pension costs and similar obligations are accounted for in accordance with IAS 19, *Employee Benefits.* For purposes of US GAAP, pension costs for defined benefit plans are accounted for in accordance with SFAS 87 *Employers' Accounting for Pensions* and the disclosure are presented in accordance with SFAS 132 *Employers' Disclosures about Pensions and Other Post-retirement Benefits.* Differences in the amounts of net periodic benefit costs and the prepaid benefit cost exist due to different transition date rules, pre-1999 accounting rule differences and different provisions for recognition of a prepaid pension asset. Under IFRS the recognition of a prepaid asset is subject to certain limitations, and any unrecognized prepaid pension asset is recorded aspension expense. US GAAP does not allow a limitation on the recognition of prepaid pension assets recorded in the balance sheet.

The following is a reconciliation of the balance sheet and income statement amounts recognized for IFRS and US GAAP for both pension and post-employment benefit plans:

	2004 USD millions	2003 USD millions
Pension plans:		
Net asset recognized for IFRS	3 349	3 046
Difference in unrecognized amounts	1 446	1 314
Net asset recognized for US GAAP	**4 795**	**4 360**
Net periodic pension (cost)/income recognized for IFRS	-198	-54
Difference in recognition of actuarial and past service amounts	-9	-35
Net periodic pension (cost)/income recognized for US GAAP	**-207**	**-89**
Other post-employment benefit plans:		
Liability recognized for IFRS	-495	-460
Difference in unrecognized amounts	-100	-105
Liability recognized for US GAAP	**-595**	**-565**
Net periodic post-employment benefit cost recognized for IFRS	-75	-63
Difference in recognition of actuarial and past service amounts	3	17
Net periodic post-employment benefit cost recognized for US GAAP	**-72**	**-46**
Total US GAAP income statement difference on pensions and other post-employment benefits	**-6**	**-18**

The disclosures required by US GAAP are different from those provided under IFRS. On December 23, 2003, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 132 (revised 2003), *Employers' Disclosures about Pensions and Other Post-retirement Benefits, an amendment of FASB Statements No. 87, 88 and 106,* and a revision of FASB Statement No. 132. The

following provides the required separate presentation for Swiss and foreign plans under US GAAP:

Summary of pension plans

	Swiss pension plans		Foreign pension plans	
	2004 USD millions	2003 USD millions	2004 USD millions	2003 USD millions
Benefit obligation at beginning of the year	**9 793**	**8 569**	**4 072**	**3 276**
Service cost	179	137	172	148
Interest cost	366	358	214	201
Actuarial losses	1 193	240	208	455
Plan amendments			-41	15
Foreign currency translation	1 048	1 093	156	163
Benefit payments	-659	-604	-213	-186
Benefit obligation at end of the year	**11 920**	**9 793**	**4 568**	**4 072**
Fair value of plan assets at beginning of the year	**13 218**	**11 771**	**2 910**	**2 594**
Actual return on plan assets	484	571	254	345
Foreign currency translation	1 348	1 451	69	55
Employer contributions			207	92
Employee contributions	45	29	7	10
Plan amendments			-7	
Benefit payments	-659	-604	-213	-186
Fair value of plan assets at end of the year	**14 436**	**13 218**	**3 227**	**2 910**
Funded status	**2 516**	**3 425**	**-1 341**	**-1 162**
Unrecognized past service cost			-35	-49
Unrecognized net actuarial losses	2 699	1 285	956	861
Net asset/(liability) in the balance sheet	**5 215**	**4 710**	**-420**	**-350**
Components of net periodic benefit cost				
Service cost	179	137	172	148
Interest cost	366	358	214	201
Expected returns on plan assets	-520	-613	-195	-183
Employee contributions	-45	-29	-7	-10
Recognized actuarial losses			75	53
Recognized past service cost			-32	27
Net periodic benefit cost/(income)	**-20**	**-147**	**227**	**236**
Accumulated benefit obligation	11 217	8 248	4 209	3 565
Principal actuarial assumptions used	*%*	*%*	*%*	*%*
Weighted average assumptions used to determine benefit obligations at the end of year				
Discount rate	3.3	3.8	5.2	5.7
Expected rate of salary increase	1.5	2.5	3.6	3.7
Weighted average assumptions used to determine net periodic pension cost for the year ended				

	Swiss pension plans		Foreign pension plans	
Discount rate	3.8	4.0	5.5	6.2
Expected return on plan assets	4.0	5.0	6.7	8.2
Expected rate of salary increase	2.5	2.5	3.6	3.7

f) Share-based compensation: The Group does not account for share-based compensation, as it is not required under IFRS. Under US GAAP, the Group applies Accounting Principles Board Opinion No. 25 (APB 25) *Accounting for Stock Issued to Employees* and related interpretations in accounting for its plans. As described in Note 26, the Group has several plans that are subject to measurement under APB 25. These include the Long-Term Performance Plan, the Leveraged Share Savings Plan, the Swiss Employee Share Ownership Plan (ESOP), the Restricted Share Plan and the US Management ADS Appreciation Cash Plan.

Compensation expense recognized under the Long-Term Performance Plan was USD 27 million for 2004 (2003: USD 29 million).

The Leveraged Share Savings Plan is considered to be compensatory based on the fair value of the allocated Novartis AG shares. The shares are blocked for a five year period, at which time the bonus taken in shares are matched on a one-for-one basis. Compensation expense recognized under this plan was USD 27 million for 2004 (2003: USD 16 million).

The Swiss Employee Share Ownership Plan (ESOP) is considered to be compensatory based on the fair value of Novartis AG shares at a fixed date. Compensation expense recognized under this plan was USD 219 million for 2004 (2003: USD 176 million).

The Restricted Share Plan is considered to be compensatory based on the strike price for the underlying instruments, which is zero at the date of grant. Compensation expense is recorded at the grant date and is calculated as the number of instruments granted, multiplied by the share price on that date. Compensation expense recognized under this Plan was USD 5 million for 2004 (2003: USD 5 million).

The US Management ADS Appreciation Cash Plan is considered to be variable because the final benefit to employees depends on the Group's share price at the exercise date. Compensation expense is recorded at each balance sheet date by estimating the number of rights outstanding multiplied by the spread between the share price on the balance sheet date and the strike price. Compensation expense for this plan was USD 21 million for 2004 (2003: USD 47 million). This plan was supplemented in 2001 by the US ADS Incentive Plan which grants optionson Novartis ADSs.

In 2004, employees were given the choice of converting their option grants to share grants at the ratio of 4:1. Under US GAAP such share grants are considered to be compensatory based on the fair value of Novartis AG shares or ADS at the grant date. In 2004 this expense amounted to USD 27 million.

The total US GAAP expense of the above items is as follows:

	2004 USD millions	2003 USD millions
Long-Term Performance Plan	27	29
Leveraged Share Savings Plan	27	16
Swiss ESOP Plan	219	176
Restricted Share Plan	5	5
ADS Appreciation Cash Plan	21	47
Option grants converted to share grants	27	
Total US GAAP additional compensation expense	**326**	**273**

g) Consolidation of share-based employee compensation foundation: The Group has an employee share participation foundation that settles the obligationsof the Group's share-based compensation plans that is not required to be consolidated for IFRS. However, this foundation is consolidated under US GAAP.

The consolidation of this foundation reduces net income by USD 4 million (2003: USD 3 million) and US GAAP equity by USD 864 million (2003: USD 728 million).

h) Deferred taxes: Under IAS 12 (revised) *Income Taxes* and US GAAP, unrealized profits resulting from intercompany transactions are eliminated from the carrying amount of assets, such as inventory. In accordance with IAS 12 (revised) the Group calculates the tax effect with reference to the local tax rate of the company that holds the inventory (the buyer) at period-end. However, US GAAP requires that the tax effect is calculated with reference to the local tax rate in the seller's or manufacturer's jurisdiction. The effect of this difference increased US GAAP income in 2004 by USD 100 million (2003: USD 63 million reduction) and reduced equity by USD 510 million (2003: USD 609 million).

i) In-process research and development (IPR&D): Under US GAAP, IPR&D is considered to be a separate asset that needs to be written-off immediately following the acquisition as the feasibility of the acquired research and development has not been fully tested and the technology has no alternative future use. Up to March 31, 2004, IFRS did not consider that IPR&D was an intangible asset that could be separately recognized, accordingly it was included in goodwill for IFRS purposes. Under IAS 38 (revised) for all post-March 31, 2004 acquisitions IPR&D is now separately identified and recorded as an intangible asset subject to annual impairment tests.

During 2004, IPR&D arose on the acquisition of 100% of the shares of Sabex (USD 132 million) and Durascan (USD 8 million).

During 2003, IPR&D has been identified for US GAAP purposes in connection with acquisitions, principally the acquisition of 51% of the shares of Idenix. All projects of Idenix are under research or development, therefore the full goodwill recorded under IFRS amounting to USD 297 million was considered as IPR&D under US GAAP. IPR&D recognized on other acquisitions amounted to USD 39 million in 2003. The income booked for the reversal of the amortization of IPR&D recorded under IFRS as a component of goodwill amortization amounted to USD 85 million (2003: USD 76 million). The total net IPR&D expense for 2004 was USD 55 million (2003: USD 260 million). The impact of IPR&D reduced US GAAP equity by USD 1 489 million (2003: USD 1 338 million).

j) Reversal of currency translation gain: During 2004, under IFRS the Group recorded a recycling gain from cumulative translation differences of USD 301 million arising from the partial repayment of capital of a subsidiary. US GAAP does not recognize this concept so this gain has been eliminated for US GAAP purposes.

k) Minimum pension liability: The additional minimum pension liability required under US GAAP reduced equity by USD 501 million (2003: USD 37 milion).

l) Other: There are also differences between IFRS and US GAAP in relation to (1) capitalized interest and capitalized software, (2) LIFO inventory, (3) reversals of inventory provisions. None of these differences are individually significant and they are therefore shown as a combined total.

m) Additional US GAAP disclosures:

i) Financial assets and liabilities: Apart from the following exceptions, the US GAAP carrying value of financial assets and liabilities is equal to the IFRS carrying values.

ii) Cash, cash equivalents and time deposits

	2004 USD millions	2003 USD millions
Carrying value of cash and cash equivalents under IFRS	6 083	5 646
Carrying values of time deposits under IFRS (note 16)	1 353	651
Change due to consolidation of share-based compensation foundation under US GAAP	-712	-650
Total under US GAAP	**6 724**	**5 647**

iii) Marketable securities

	2003 USD millions	2002 USD millions
Carrying values of marketable securities under IFRS (note 16)	6 623	6 134
Carrying values of other investments under IFRS	1 286	1 076
Marketable securities in share-based compensation foundation consolidated under US GAAP	13	16
Total under US GAAP	**7 922**	**7 226**

The components of available-for-sale marketable securities under US GAAP at December 31, 2004 and 2003 are the following:

	Cost USD millions	Gross unrealized gains USD millions	Gross unrealized losses USD millions	Carrying value and estimated fair value USD millions
As at December 31, 2004				
Available-for-sale securities:				
Equity securities	681	201	-10	872
Debt securities	6 587	494	-31	7 050
Total	**7 268**	**695**	**-41**	**7 922**
As at December 31, 2003				
Available-for-sale securities:				
Equity securities	1 744	209	-293	1 660
Debt securities	5 299	270	-3	5 566
Total	**7 043**	**479**	**-296**	**7 226**

Proceeds from sales of available-for-sale securities were USD 5 915 million and USD 6 293 million in 2004 and 2003 respectively. Gross realized gains were USD 75 million and USD 199 million on those sales in 2004 and 2003 respectively. Gross realized losses were USD 228 million and USD 115 million on those sales in 2004 and 2003 respectively. The cost used to determine the gain or loss on these sales was calculated using the weighted average method. As at December 31, 2004 there were no (2003: USD 258 million) unrealized losses on equity securities that existed for more than 12 months.

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The maturities of the available-for-sale debt securities included above at December 31, 2004 are as follows:

	2004 USD millions
Within one year	325
Over one year through five years	5 145
Over five years through ten years	918
Over ten years	662
Total	**7 050**

iv) Non-derivative financial instruments: The US GAAP carrying values are equivalent to the IFRS carrying values for all non-derivative financial assets and liabilities with the exception of privately held companies that are valued at cost under US GAAP. Non-derivative financial assets consist of cash and cash equivalents, time deposits, and marketable securities. Non-derivative liabilities consist of commercial paper, bank or other short-term financial debts, and long-term debt.

The carrying amount ofcash and cash equivalents, time deposits, commercial paper, and bank and other short-term financial debts approximates their estimated fair values due to the short-term nature of these instruments. The fair values of marketable securities are estimated based on listed market prices or broker or dealer price quotes. The fair value of long-term debt is estimated based on the current quoted market rates available for debt with similar terms and maturities.

The estimated fair values of the long and short-term financial debt are provided in notes 18 and 20 to the IFRS consolidated financial statements.

v) Earnings per share: As discussed in item (g) above, in the past, the Group established the Novartis Foundation for Employee Participation to assist the Group in meeting its obligations under various employee benefit plans and programs. This Foundation supports existing, previously approved employee benefit plans.

For US GAAP purposes, the Group consolidates this Foundation. The cost of Novartis AG shares held by the Foundation is shown as a reduction of shareholders' equity in the Group's US GAAP balance sheet.

Any dividend transactions between the Group and the Foundation are eliminated, and the difference between the fair value of the shares on the date of contribution to the Foundation and the fair values of the shares at December 31, is included in consolidated retained earnings. Shares held in the Foundation are not considered outstanding in the computation of US GAAP earnings per share. The consolidation of this entity had the following impact on basic and diluted earnings per share:

Basic earnings per share	**2004**	**2003**
Net income under US GAAP (USD millions)	**4 989**	**3 788**
Weighted average number of shares in issue under IFRS	2 447 954 717	2 473 522 565
Weighted average number of treasury shares due to consolidation of the employee share participation foundation under US GAAP	-92 464 445	-93 430 809
Weighted average number of shares in issue under US GAAP	**2 355 490 272**	**2 380 091 756**
Basic earnings per share under US GAAP (USD)	**2.12**	**1.59**

Diluted earnings per share	2004	2003
Net income under US GAAP (USD millions)	**4 989**	**3 788**
Weighted average number of shares in issue under IFRS	2 447 954 717	2 473 522 565
Call options on Novartis shares		27 446 092
Adjustment for other dilutive share options	11 917 258	4 346 940
Weighted average number of treasury shares due to consolidation of the employee share participation foundation under US GAAP	-92 464 445	-93 430 809
Weighted average number of shares for diluted earnings per share under US GAAP	**2 367 407 530**	**2 411 884 788**
Diluted earnings per share under US GAAP (USD)	**2.11**	**1.57**

vi) Pro forma earnings per share: Statement of Financial Accounting Standards No. 123 (SFAS 123) *Accounting for Stock-Based Compensation* established accounting and disclosure requirements using a fair-value based method of accounting for share-based employee compensation. Had the Group accounted for share options in accordance with SFAS 123, net income and earnings per share would have been the pro forma amounts indicated below:

	2004	2003
Net income under US GAAP (USD millions):		
As reported	**4 989**	**3 788**
Stock-based employee compensation cost included in the determination of net income	326	273
Stock-based employee compensation cost that would have been included in the determination of net income if the fair value based method had been applied to all awards	-542	-459
Pro forma	**4 773**	**3 602**
Earnings per share (USD):		
As reported:		
Basic	2.12	1.59
Diluted	2.11	1.57
Pro forma:		
Basic	2.03	1.51
Diluted	2.02	1.49

The weighted average assumptions used in determining the fair value of option grants were as follows:

	2004	2003
Dividend yield	1.8%	1.8%
Expected volatility	23.1%	24.0%
Discount rate	3.6%	4.0%
Expected life	10 yrs	9 yrs

These pro forma effects may not be representative of future amounts since the estimated fair value of share options on the date of grant is amortized to expense over the vesting period and additional options may be granted in future years.

vii) Deferred tax: The deferred tax asset less valuation allowance at December 31, 2004 and 2003 comprises USD 1 265 million and USD 1 590 million of current assets and USD 1 456 million and USD 987 million of non-current assets respectively. The deferred tax liability at December 31, 2004 and 2003 comprises USD 1 289 million and USD 1 202 million of current liabilities and USD 3 993 million and USD 3 935 million of noncurrent liabilities respectively.

viii) Foreign currency translation: The Group has accounted for operations in highly inflationary economies in accordance with IAS 21 (revised) and IAS 29. The accounting under IAS 21 (revised) and IAS 29 complies with Item 18 of Form 20-F and is different from that required by US GAAP.

ix) US GAAP goodwill: Goodwill is the only intangible asset within the Group which is not subject to amortization under US GAAP. All goodwill components were tested for impairment during 2004. The fair values of the businesses were detemined using the expected present values of future cash flows.

The Group estimates that the aggregate amortization expense for intangibles subject to amortization for each of the five succeeding financial years will not materially differ from the current aggregate amortization expense.

The changes in the carrying amount of goodwill for the years ended December 31, 2004 and 2003 areas follows:

	Pharmaceuticals Division USD millions	Consumer Health Division USD millions	Total USD millions
January 1, 2003	**67**	**4 399**	**4 466**
Additions		7	7
Impairment losses	-12	-179	-191
Goodwill written off related to disposal of businesses	-35	-5	-40
Reclassification to separately identified intangibles		-423	-423
Translation effects	2	116	118
December 31, 2003	**22**	**3 915**	**3 937**
Additions		535	535
Impairment losses		-106	-106
Goodwill written off related to disposal of businesses		-13	-13
Reclassification from separately identified intangibles		6	6
Translation effects	1	80	81
December 31, 2004	**23**	**4 417**	**4 440**

x) Details to significant capitalized trademarks and product rights:

	Gross carrying value Dec. 31. 2004 USD millions	Accumulate amortization Dec. 31. 2004 USD millions	Net carrying value Dec. 31. 2004 USD millions	Net carrying value Dec. 31. 2003 millions
Famvir	1 860	-559	1 301	1 360
Voltaren	2 011	-955	1 056	1 095
Tegretol	653	-261	392	385
Other pharmaceutical products	4 255	-2 131	2 124	2 777
Total Pharmaceuticals Division	**8 779**	**-3 906**	**4 873**	**5 617**
Sandoz	864	-142	722	561
OTC	155	-55	100	100
Animal Health	500	-238	262	274
Medical Nutrition	25	-23	2	7
CIBA Vision	540	-223	317	336
Total Consumer Health Division	**2 084**	**-681**	**1 403**	**1 278**
Total	**10 863**	**-4 587**	**6 276**	**6 895**

Novartis usually applies the straight-line amortization method although there can be exceptions as indicated below. For Pharmaceutical Division products the patent life generally reflects the useful life although in certain circumstances a value is also given to the non-patent protected period. For other segments the maximum useful life used is 20 years.

Famvir

The value of Famvir has been bifurcated, with the majority of the value assigned to its sales under patent protection. This portion is amortized over the remaining patent life until 2010.

The remainder is amortized over an additional 10 year period representing its value as a branded non-patent protected product. This amortization charge is half of the amount during the patent period.

Voltaren

Voltaren is off-patent in the US and many other countries. Novartis applies a straight-line amortization period and the useful life ends in 2011.

Tegretol

Tegretol is off-patent. Novartis applies a straight-line amortization period and the useful life ends in 2011.

xi) Effect of New Accounting Pronouncements: International Financial Reporting Standards: In December 2003, International Accounting Standards (IAS) were amendedas the IASB released revised IAS 32, *Financial Instruments: Disclosure and Presentation* and IAS 39, *Financial Instruments: Recognition and Measurement.* These standards replace IAS 32 (revised 2000), and supersedes IAS 39 (revised 2000), and must be applied for annual periods beginning on or after January 1, 2005.

In December 2003, as a part of the IASB's project to improve International Accounting Standards, the IASB released revisions to the following standards that supersede the previously released versions of those standards: IAS 1, *Presentation of Financial Statements;* IAS 2, *Inventories;* IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors;* IAS 10, *Events after the Balance Sheet Date;* IAS 16, *Property, Plant and Equipment;* IAS 17, *Leases;* IAS 21, *The Effects of Changes in Foreign Exchange Rates;* IAS 24, *Related Party Disclosures;* IAS 27, *Consolidated and Separate Financial Statements;* IAS 28, *Investments in Associates;* IAS 31, *Interests in Joint Ventures;* IAS 33, *Earnings per Share* and IAS 40, *Investment Property.* The revised standards must be applied for annual periods beginning on or after January 1, 2005. During 2004 the following International Financial Reporting Standards (IFRS) were issued: *IFRS 2, Share-Based Payments; IFRS 3, Business Combinations; IFRS 4, Insurance Contracts; IFRS 5, Non-Current Assets Held for Sale and Discontinued Operations* and *IFRS 6, Exploration for and Evaluation of Mineral Resources.* The following is a summary of the material impact on the Group's consolidated financial statements expected from applying these revised standards.

a) IAS 39 on Financial Instruments: Cash flow hedges for forecast intragroup transactions

Under IAS 39 (revised) no cash flow hedge accounting is available on forecast intragroup transactions. Any deferral of hedging gains or losss that were included in the 2004 and 2003 consolidated financial statements needs to be reversed.

b) Presentation of minority interests to be changed

IAS 1 (revised) requires that minority interests are included in the Group's equity in the consolidated balance sheet and not be shown as a separate category and that it is no longer deducted in arriving at the Group's net income. The effect of this is to increase the Group's equity at January 1, 2005 by USD 138 million. Earnings per share will continue to be calculated on the net income attributable solely to the equity holders of Novartis AG.

c) Presentation of the tax related to associated companies to be changed

IAS 1 (revised) requires that the tax related to the result of associated companies is no longer included in the Group's tax expense. From January 1, 2005 the Group's share in the results of its associated companies will be included on one income statement line and will be calculated after deduction of their taxes and minority interests.

d) IFRS 2 on share-based payments

IFRS 2 comes into force on January 1, 2005 and requires that the fair value of any equity instruments granted to employees or other parties is recognized as an expense. Novartis only uses grants of its equity instruments to compensate its employees. Up to December 31, 2004 the approximate fair value of these equity instruments has been charged to the business operations in the segment reporting but has been off-set by a matching income in Corporate other income & expense. Therefore, no pre-tax operating income charge was ultimately recognized in the Group's IFRS consolidated financial statements.

From January 1, 2005 Novartis will calculate the fair value of the granted options using a variant of the lattice binominal approach. The amounts will be charged to income over the relevant vesting periods, adjusted to reflect actual and expected levels of vesting. As permitted by IFRS 2, Novartis will restate in 2005 its prior year audited historical consolidated financial statements to reflect the cost of grants awarded since the effective date of IFRS2 on November 7, 2002.

The Group does not anticipate that there will be any material additional tax benefit from this change in accounting policy.

e) SIC-12 change relating to consolidation of equity compensation plans

Changes to the Standing Interpretations Committee SIC-12 come into force on January 1, 2005 which require the consolidation of equity compensation plans. Prior to this change there was no requirement under IFRS to consolidate these plans.

The effect of consolidation of these plans from January 1, 2005 will be to reduce the Group's financial assets and equity by USD 864 million and to increase its treasury shares by 87.3 million.This change will have a corresponding impact on the Group's earnings per share (EPS) calculation prepared under IFRS. The equity compensation plan is already consolidated under US GAAP and the additional treasury shares are included in the US GAAP EPS calculation.

f) IFRS 3 on business combinations and related goodwill amortization

Under IFRS 3, with effect from January 1, 2005, goodwill is considered to have an indefinite life and is not amortized, but is subject to annual impairment testing. This relates not only to goodwill that has been separately identified and recorded in the Divisions' operating balance sheets but also to the goodwill that is embedded in the equity accounting of associated companies. Additional goodwill of USD 352 million recognized on transactions consummated after March 31, 2004 is already subject to the new accounting policy and has not been amortized.

g) IAS 38 revised on intangible assets

Under IAS 38 (revised), Novartis is required to adopt changes to accounting for intangible assets atthe same time as it adopts IFRS 3. The following are the principal accounting policy changes.

A cost needs to be allocated to In-Process Research & Development (IPR&D) as part of the process of allocating the purchase price of a newly acquired business combination. This amount needs to be recorded separately from goodwill and must be assessed for impairment on an annual basis. Once a project included in IPR&D has been successfully developed and is available for use it needs to be amortized over its useful life. Previously, IPR&D was included under goodwill for IFRS purposes but not for US GAAP accounting purposes, where it was separately recognized and immediately expensed. As required by the transitional rules, IPR&D has already been separately capitalized for IFRS purposes for all post-March 31, 2004 acquisitions.

Acquired R&D assets, such as those related to up-front and milestone payments also need to be capitalized as intangible assets, even if it is uncertain as to whether the R&D will ultimately be successful in producing a saleable product. Previously intangible assets were only recognized if they were acquired after FDA or similar regulatory body approval. Under US GAAP acquired R&D assets that have not received regulatory approval will continue to be immediately expensed.

xii) Effect of New Accounting Pronouncements: US GAAP: In December 2003, the *Medicare Prescription Drug, Improvements and Modernization Act of 2003* (the Medicare Act) was approved in the United States. The Medicare Act provides for two new prescription drug benefit features under Medicare. The Group provides post-retirement benefits to its United States employees so the benefits provided are impactedby the Medicare Act. SFAS 106, *Employers' Accounting for Post-retirement Benefits Other Than Pensions,* requires that enacted changes in the law that take effect in future periods and that will affect the future level of benefit coverage be considered in the current period measurements for benefitsexpected to be provided in those future periods. The Medicare Act reduced the cost of medical benefits to be borne by the Group by USD 7 million in 2004. The effect of this change in estimate is included in the December 31, 2004 liability for other post-employment benefits.

FIN 46 *Consolidation of Variable Interest Entities* was effective for Novartis starting January 1, 2004. The Group has concluded that this had no impact on the consolidated financial statements.

In March 2004, the EITF reached consensus on Issue No. 03-1, *"The Meaning of Other- Than-Temporary Impairment and its Application to Certain Investments"* ("EITF 03-01"). EITF 03.01 provides guidance on other-than-temporary impairment models for marketable debt and equity securities and non-marketable securities accounted for under the cost method. On September 30, 2004, the FASB issued FSP 03-01-1, *Effective Date of Paragraphs 10-20 of EITF Issue 03-01, The Meaning of Other-Than-Temporary Impairment and its Application to Certain Investments,* delaying the effective date for the recognition and measurement guidance in EITF 03-01, until certain implementation issues are addressed and a final FSP is issued. The disclosure requirements in EITF 03-01 remain effective. In light of the deliberations on EITF 03-01, the Group changed its policy for the accounting for other-than-temporary impairments, such that all available-for-sale equity securities with unrealized losses at the balance sheet date are assessed for impairment (previously when the fair value was 50% of cost for a sustained period of six months). The effect of the change in estimate, which has also been adopted in the Group's IFRS consolidated financial statements, has been to record additional impairment charges on the available-for-sale equity securities of USD 101 million. Please also refer to Note 1 "Accounting Policies".

In November 2004, the FASB issued FASB Statement No. 151, *Inventory Costs,* an amendment of ARB No. 43, Chapter 4, clarifying the existing requirements in ARB No. 43 by adopting language similar to that used in IAS 2.

The guidance is effective for inventory costs incurred during fiscal years beginning after June 15, 2003. The adoption of FAS 151 will not have an impact on the Group's consolidated results of operation or financial position, since the key elements are already utilized in the Group's IFRS and US GAAP consolidated financial statements.

In December 2004, the FASB published FASB Statement No. 123 (revised 2004). *Share-Based Payments.* This provides guidance on how companies must recognize the compensation cost relating to share-based payment transactions in their financial statements. It will require companies to recognize a compensation cost for the value of options granted in exchange for employee services, based on the grant date fair value of those instruments. FAS No. 123 (revised) is effective for public entities as of the beginning of the first interim or annual reporting period that begins after June 15, 2005, however early application is possible. Novartis intends to adopt this revised standard from January 1, 2005.

Report of Novartis Management on Internal Control over Financial Reporting

Novartis' 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, 2004. 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 our assessment management has concluded that, as of December 31, 2004, Novartis Group's internal control over financial reporting is effective based on those criteria.

Management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2004 has been audited by PricewaterhouseCoopers AG, Switzerland, an independent registered public accounting firm, as stated in their report which is included herein.

Daniel Vasella, M.D.
Chairman & Chief Executive Officer
Basel, January 19, 2005

Raymund Breu, Ph.D.

Report of the Group Auditors on the Novartis Consolidated Financial Statements and Internal Control over Financial Reporting

To the General Meeting of Novartis AG, Basel

As auditors of the Group we have audited the consolidated financial statements of the Novartis Group for the year ended December 31, 2004. We have also audited management's assessment on internal control over financial reporting as of December 31, 2004. Our opinions, based on our audits, are presented below.

Consolidated financial statements

As auditors of the Group we have audited the consolidated financial statements (balance sheet, income statement, cash flow statement, statement of changes in equity, and notes), pages 145 to 218, of the Novartis Group for the year ended December 31, 2004.

These consolidated financial statements are the responsibility of the Board of Directors. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We confirm that we meet the legal requirements concerning professional qualification and independence.

We conducted our audit in accordance with auditing standards promulgated by the Swiss profession and with 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 about whether the consolidated financial statements are free of material misstatement. An audit of consolidated financial statements includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made and evaluating the overall consolidated financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Novartis Group, the results of its operations and its cash flows in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

We recommend that the consolidated financial statements submitted to you be approved.

Internal control over financial reporting

We have also audited management's assessment, included in the accompanying "Report of Novartis management on internal control over financial reporting" appearing on page 219, that Novartis maintained effective internal control over financial reporting as of December 31, 2004, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Novartis' Board of Directors and management of the 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. Our responsibility is to express opinions on management's assessment and on the effectiveness of Novartis Group's internal control over financial reporting based on our 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, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

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 generally accepted accounting principles. 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 generally accepted accounting principles, 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, management's assessment, that Novartis Group maintained effective internal control over financial reporting as of December 31, 2004, is fairly stated, in all material respects, based on criteria established in *Internal Control Integrated Framework* issued by the COSO. Also, in our opinion, Novartis Group maintained, in all material respects, effective internal control over financial reporting as of December 31, 2004, based on criteria established in *Internal Control Integrated Framework* issued by the COSO.

PricewaterhouseCoopers AG

J.G. Kaiser D. Suter
Basel, January 19, 2005

Financial Statements of Novartis AG

Income Statements

(for the years ended December 31, 2004 and 2003)

	2004 CHF millions	2003 CHF millions
Income		
Income from financial assets	5 889	3 038
Income from marketable securities, cash and short-term deposits	254	457
Gain from disposal of intangible assets	225	256
License fees from subsidiaries	722	460
Other income	12	44
Total income	**7 102**	**4 255**
Expenses		
Financial expenses	-113	-132
Administrative expenses	-26	-11
Changes to provisions and value of financial assets	-14	-12
Amortization of intangible assets	-19	
Other expenses	-2	-50
Taxes	-64	-110
Total expenses	**-238**	**-315**
Net income	**6 864**	**3 940**

Proposal for the Appropriation of Available Earnings

	2004 CHF	2003 CHF
Available unappropriated earnings		
Balance brought forward		
Waived dividends on treasury shares	2 750 000	
Net income of the year	6 863 565 195	3 939 921 749
Total available earnings	**6 866 315 195**	**3 939 921 749**
Appropriation		
Payment of a dividend of CHF 1.05 (2003: CHF 1.00) gross on 2 485 747 397 (2003: 2 526 705 981) dividend bearing shares with a nominal value of CHF 0.50 each	-2 610 034 767	-2 526 705 981
Transfer to free reserves	-4 256 280 428	-1 413 215 768
Balance to be carried forward		

Balance Sheets (prior to profit appropriation)

(at December 31, 2004 and 2003)

	Notes	2004 CHF millions	2003 CHF millions
Assets			
Long-term assets			
Intangible assets		98	
Financial assets	3	11 607	12 665
Total long-term assets		**11 705**	**12 665**
Current assets			
Receivables			
subsidiaries		7 238	2 862
others		24	37
Marketable securities	4	2 898	1 977
Cash and short-term deposits		8	1 269
Total current assets		**10 168**	**6 145**
Total assets		**21 873**	**18 810**
Equity and liabilities			
Equity			
Total share capital	5	**1 389**	**1 401**
Reserves			
Legal reserves	6		
General reserve		281	642
Reserve for treasury shares		10 573	9 483
Free reserves	7	2 036	2 603
Total reserves		**12 890**	**12 728**
Unappropriated earnings			
Balance brought forward due to waived dividends on treasury shares		3	
Net income of the year		6 864	3 940
Total unappropriated earnings		**6 867**	**3 940**
Total equity		**21 146**	**18 069**
Liabilities			
Provisions		568	572
Accounts payable and accrued liabilities			
subsidiaries		61	49
others		98	120
Total liabilities		**727**	**741**

	Notes	2004 CHF millions	2003 CHF millions
Total equity and liabilities		**21 873**	**18 810**

The notes form an integral part of these unconsolidated financial statements

Notes to the Financial Statements of Novartis AG

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 denominated in foreign currencies are converted at year end exchange rates. Exchange differences arising from these as well as those from business transactions are recorded in the income statement.

Intangible assets: These are capitalized and amortized over a period of between five to ten years.

Financial assets: These are valued at acquisition cost less adjustments for impairment of value.

Marketable securities: These are valued at the lower of cost and market value.

Provisions: Provisions are made to cover general business risks of the Group.

3. Financial assets

Included in financial assets are CHF 9 081 million (2003: CHF 10 136 million) of investments in subsidiaries and CHF 2 526 million (2003: CHF 2 529 million) of loans to subsidiaries and other related entities.

The principal direct and indirect subsidiaries and other holdings of Novartis AG are shown on pages 197 to 202.

4. Marketable securities

Included in marketable securities are treasury shares with a net book value of CHF 2 895 million (2003: CHF 1 974 million) (see 5 and 6 below).

5. Share capital

	Number of shares				
	December 31, 2002	Movement in year	December 31, 2003	Movement in year	December 31, 2004
Total Novartis AG shares	**2 824 150 000**	**-22 680 000**	**2 801 470 000**	**-24 260 000**	**2 777 210 000**
Treasury shares					
Treasury shares held by Novartis AG	154 508 000	-9 220 000	145 288 000	13 779 000	159 067 000
Treasury shares held by subsidiaries	122 561 019	6 915 000	129 476 019	2 919 584	132 395 603
Total treasury shares	**277 069 019**	**-2 305 000**	**274 764 019**	**16 698 584**	**291 462 603**

The Novartis AG share capital consists of registered shares with a nominal value of CHF 0.50 each.

The total share capital reduced from CHF 1 400.7 million at December 31, 2003 to CHF 1 388.6 million at December 31, 2004 due to a share capital reduction and subsequent cancellation of 2 426 000 shares with a nominal value of CHF 12 130 000 approved at the Annual General Meeting of February 24, 2004, which became effective on June 10, 2004.

The total share capital reduced from CHF 1 412.1 million at December 31, 2002 to CHF 1 400.7 million at December 31, 2003 due to a share capital reduction and subsequent cancellation of 22 680 000 shares with a nominal value of CHF 11 340 000 approved at the Annual General Meeting of March 4, 2003 which became effective on July 3, 2003.

Treasury share purchases totaled 41.0 million (2003: 31.2 million) with an average purchase price per share of CHF 57 (2003: CHF 52) and there were no treasury share sales (2003: CHF 10.8 million with an average sales price per share of CHF 53).

The number of treasury shares held by the Company and subsidiaries meet the definitions and requirements of Art. 659b SCO. The 291 462 603 treasury shares held at December 31, 2004 are non-dividend bearing. Novartis Group's consolidated financial statements comply with IFRS SIC Interpretation No. 12. This requires consolidation of entities which do not qualify as subsidiaries in the sense of Article 659b SCO.

6. Legal reserves

General reserve

	2004 CHF millions	2003 CHF millions
January 1	**642**	**289**
Increase due to sale of treasury shares		353
Transfer to free reserves	-361	
December 31	**281**	**642**

Reserve for treasury shares held by the Group

	2004 CHF millions	2003 CHF millions
January 1	**9 483**	**9 321**
Reduction due to cancellation of treasury shares (CHF 1 263 million of repurchased shares less their nominal value of CHF 12 million, 2003: CHF 1 438 million and CHF 11million respectively)	-1 251	-1 427
Transfer from free reserves	2 341	1 589
December 31	**10 573**	**9 483**

The general reserve must be at least 20% of the share capital of Novartis AG as this is the minimum amount required by 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.

7. Free reserves

	2004 CHF millions	2003 CHF millions
January 1	**2 603**	**34**
Transfer from general reserves	361	
Transfer from unappropriated earnings	1 413	4 158
Transfer to reserve for treasury shares	-2 341	-1 589
December 31	**2 036**	**2 603**

8. Contingent liabilities

	Outstanding liabilities December 31, 2004 CHF millions	Outstanding liabilities December 31, 2003 CHF millions
Guarantees to cover capital and interest of bonds, commercial paper and the Euro medium-term note program total maximum amount CHF 7 049 million 2003: CHF 7 602 million)	3 950	4 474
Guarantees in favor of group companies, associated companies and others total maximum amount CHF 513 million 2003: CHF 502 million	295	298
Total	**4 245**	**4 772**

9. 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.

As far as can be ascertained from the information available, shareholders owning 2% or more of the Company's capital at December 31 are as follows:

	% holding of share capital December 31, 2004	% holding of share capital December 31, 2003
Novartis Foundation for Employee Participation, Basel	3.1	3.3
Emasan AG, Basel	3.2	3.1

Report of the Auditors on the Novartis AG Financial Statements

To the General Meeting of Novartis AG, Basel

As statutory auditors, we have audited the accounting records and the financial statements (balance sheet, income statement and notes), pages 222 to 226, of Novartis AG, Basel, for the year ended December 31, 2004.

These financial statements are the responsibility of the Board of Directors. Our responsibility is to express an opinion on these financial statements based on our audit. We confirm that we meet the legal requirements concerning professional qualification and independence.

Our audit was conducted in accordance with auditing standards promulgated by the Swiss profession, which require that an audit be planned and performed to obtain reasonable assurance about whether the financial statements are free from material misstatement. We have examined on a test basis evidence supporting the amounts and disclosures in the financial statements. We have also assessed the accounting principles used, significant estimates made and the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the accounting records and financial statements and the proposed appropriation of available earnings comply with Swiss law and the Company's articles of incorporation.

We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

J. G. Kaiser H. Plozza
Basel, January 19, 2005

Key Dates for 2005

Anticipated key reporting dates

Annual General Meeting for the financial year 2004	March 1, 2005
First Quarter 2005 (sales and results)	April 21, 2005
First Half 2005 (year to date and second quarter sales and results)	July 14, 2005
Nine Months 2005 (year to date and third quarter sales and results)	October 18, 2005
Full Year 2005 (year to date and fourth quarter sales and results)	January 2006

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Novartis Annual Report on the Internet
http://www.novartis.com/annualreport2004

We would like to thank everyone who contributed to this report by sharing personal experience and knowledge with us.

We are particularly grateful to Cristina García Rodero for the compelling photographs in our Annual Report.

Forward-looking statements

This Annual Report contains certain "forward-looking statements" within the meaning of the securities laws of the United States relating to our business and the industries in which we operate. Certain forward-looking statements can be identified by the use of forward-looking terminology such as "believe", "expect", "may", "are expected to", "will", "will continue", "should", "would be", "seek" or "anticipate" or similar expressions or the negative thereof or other variations thereof or comparable terminology, or by discussions of strategy, plans or intentions. Such statements include descriptions of our investment and research and development programs and anticipated expenditures in connection therewith, and descriptions of new products we expect to introduce and anticipated customer demand for such products. Such statements reflect our current views with respect to future events and are subject to certain risks, uncertainties and assumptions. Many factors could cause our actual results, performance or achievements to be materially different from any future results, performances or achievements that may be expressed or implied by such forward-looking statements. Our expectations could be affected by, among other things, new clinical data; unexpected clinical trial results, unexpected regulatory actions or delays or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection, competition in general; government, industry, and general public pricing pressures 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 in this Annual Report as anticipated, believed, estimated or expected. We do not intend, and do not assume any obligation, to update any information or forward-looking statements set out in this Annual Report.

Our Annual Report is originally published in English, with French and German versions available.

Published by Novartis International AG, Basel, Switzerland

Cristina García Rodero

Cristina García Rodero was born in the Spanish city of Puertollano (Ciudad Real) in 1949 and holds a B.A. in Fine Arts.

She is currently a Lecturer of Photography in the Faculty of Fine Arts at the University Complutense in Madrid.

In 1969, Ms. García Rodero started her career in photography and later began a research project in 1973 in which she compiled photographs about the celebrations, traditions and rituals of Spain.

Her work culminated in the publication of "España Oculta" ("Hidden Spain") in 1989 and "España, Fiestas y Ritos" ("Spain, Festivals and Rituals") in 1992.

Ms. García Rodero subsequently published books that have included "Europa, el sur" ("Europe, the South") in 1992, "Garbaka. O Monte das 6 000 cruces" ("Garbaka The Hill of 6 000 Crosses") in 2000 and "Rituales en Haití" ("Rituals of Haiti") in 2001.

The work of Ms. García Rodero has been awarded some of the most important national and international prizes in photography.

Among her awards include the *Planeta* award for the ensemble of her work as well as the *W. Eugene Smith Grant in Humanistic Photography,* which was awarded to her in New York in 1989. Other prizes include *The Best Photography Book* at the international meetings of Photography in Arles (France, 1989), the Dr. Erich Salomon Award (Stuttgart, 1990), the World Press Photo prize in the art category (Amsterdam, 1993), the Spanish National Photography Award (Madrid, 1996), the *Bartolomé Ros Prize* from PhotoEspaña for the best professional career in photography (Madrid, 2000) and the *Godò Journalism Prize* (Barcelona, 2001). Her work has been exhibited in at the most important cities of Europe and America and has joined many important collections around the world.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, Novartis AG has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

NOVARTIS AG

Date: February 4, 2005

By: /s/ MALCOLM CHEETHAM
Name: Malcolm Cheetham
Title: *Head Group Financial Reporting and Accounting*

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