NOVARTIS AG
Form 20-F
January 27, 2011

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As filed with the Securities and Exchange Commission on January 27, 2011

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington D.C. 20549

FORM 20-F

o REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the fiscal year ended December 31, 2010

OR

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

o SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 1-15024

NOVARTIS AG

(Exact name of Registrant as specified in its charter)

NOVARTIS Inc.

(Translation of Registrant's name into English)

Switzerland

(Jurisdiction of incorporation or organization)

Lichtstrasse 35
4056 Basel, Switzerland

(Address of principal executive offices)

Thomas Werlen
Group General Counsel
Novartis AG

CH-4056 Basel
Switzerland
011-41-61-324-2745
thomas.werlen@novartis.com
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered pursuant to Section 12(b) of the Act:

Title of class	Name of each exchange on which registered
American Depositary Shares each representing 1 share, nominal value CHF 0.50 per share, and shares	**New York Stock Exchange, Inc.**

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

2,289,445,178 shares

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ý No o

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes o No ý

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ý No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer ý Accelerated filer o Non-accelerated filer o

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

o U.S. GAAP ý International Financial Reporting Standards as issued by the International Accounting Standards Board o Other
If "Other" has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 o Item 18 o

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes o No ý

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INTRODUCTION

Novartis AG and its consolidated affiliates (Novartis or the Group) publish consolidated financial statements expressed in US dollars. Our consolidated financial statements found in Item 18 of this annual report on Form 20-F (Form 20-F) are those for the year ended December 31, 2010 and are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

USE OF CERTAIN TERMS

In this Form 20-F, references to "Alcon" are to Alcon, Inc.; references to "US dollars," "$" or "USD" are to the lawful currency of the United States of America, and references to "CHF" are to Swiss francs; references to the "United States" or to "US" are to the United States of America, references to the European Union (EU) are to the European Union and its 27 member states and references to "Americas" are to North, Central (including the Caribbean) and South America, unless the context otherwise requires; references to "associates" are to employees of our affiliates; references to the "FDA" are to the US Food and Drug Administration, references to "EMA" are to the European Medicines Agency, an agency of the EU, and references to the CHMP are to the EMA's Committee for Medicinal Products for Human Use; references to "ADS" or "ADSs" are to Novartis American Depositary Shares, and references to "ADR" or "ADRs" are to Novartis American Depositary Receipts; references to the NYSE are to the New York Stock Exchange, and references to the SIX are to the SIX Swiss Exchange. All product names appearing in italics are trademarks owned by or licensed to Group companies. Product names identified by a "®" or a " " are trademarks that are not owned by or licensed to Group companies. You will find the words "we," "our," "us" and similar words or phrases in this Form 20-F. We use those words to comply with the requirement of the US Securities and Exchange Commission to use "plain English" in public documents like this Form 20-F. For the sake of clarification, each Group company is legally separate from all other Group companies and manages its business independently through its respective board of directors or other top local management body. No Group company operates the business of another Group company nor is any Group company the agent of any other Group company. Each executive identified in this Form 20-F reports directly to other executives of the Group company which employs the executive, or to that Group company's board of directors.

FORWARD LOOKING STATEMENTS

This Form 20-F contains certain "forward looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which can be identified by terminology such as "planned," "expected," "will," "potential," "pipeline," "outlook," or similar expressions, or by express or implied discussions regarding potential new products, potential new indications for existing products, or regarding potential future revenues from any such products; or regarding potential growth opportunities from the acquisition of a 77% majority ownership in Alcon, Inc. or regarding the expected merger with Alcon, or the potential impact on Alcon or Novartis of the expected merger; or regarding potential future sales or earnings of the Novartis Group or any of its divisions as a result of the expected merger or otherwise, or of Alcon, or any potential synergies, strategic benefits or opportunities as a result of the expected merger; or by discussions of strategy, plans, expectations or intentions. You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of the Group regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no guarantee that any new products will be approved for sale in any market, or that any new indications will be approved for existing products in any market, or that such products will achieve any

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particular revenue levels. Nor can there be any guarantee that the expected merger with Alcon will be completed in the expected form or within the expected time frame or at all. Nor can there be any guarantee that Novartis will be able to realize any of the potential synergies, strategic benefits or opportunities as a result of either Novartis' acquisition of a 77% majority ownership in Alcon, Inc., or as a result of the expected merger with Alcon. Nor can there be any guarantee that the Novartis Group, or any of its divisions, or Alcon will achieve any particular financial results, whether as a result of the merger or otherwise. In particular, management's expectations could be affected by, among other things, unexpected regulatory actions or delays or government regulation generally; unexpected clinical trial results, including additional analyses of existing clinical data or unexpected new clinical data; the Group's ability to obtain or maintain patent or other proprietary intellectual property protection; disruptions from the Alcon 77% implementation and the expected merger making it more difficult to maintain business and operational relationships, and relationships with key employees; unexpected product manufacturing issues; uncertainties regarding actual or potential legal proceedings, including, among others, litigation seeking to prevent the merger from taking place, product liability litigation, litigation regarding sales and marketing practices, government investigations and intellectual property disputes; competition in general; government, industry, and general public pricing and other political pressures; uncertainties regarding the after-effects of the recent global financial and economic crisis; uncertainties regarding future global exchange rates and uncertainties regarding future demand for our products; uncertainties involved in the development of new pharmaceutical products; and the impact that the foregoing factors could have on the values attributed to the Group's assets and liabilities as recorded in the Group's consolidated balance sheet. Some of these factors are discussed in more detail herein, including under "Item 3. Key Information 3.D. Risk factors," "Item 4. Information on the Company," and "Item 5. Operating and Financial Review and Prospects." 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 Form 20-F as anticipated, believed, estimated or expected. We provide the information in this 20-F as of the date of its filing. We do not intend, and do not assume any obligation, to update any information or forward looking statements set out in this Form 20-F as a result of new information, future events or otherwise.

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PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

3.A Selected Financial Data

The selected financial information set out below has been extracted from our consolidated financial statements prepared in accordance with IFRS as issued by the IASB. Our consolidated financial statements for the years ended December 31, 2010, 2009 and 2008 are included in "Item 18. Financial Statements" in this Form 20-F.

The results of our Medical Nutrition and Gerber Business Units are shown as discontinued operations for all periods presented, following their divestment in 2007.

All financial data should be read in conjunction with "Item 5. Operating and Financial Review and Prospects". All financial data presented in this Form 20-F are qualified in their entirety by reference to the consolidated financial statements and their notes.

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	Year Ended December 31,				
	2010	2009	2008	2007	2006
	($ millions, except per share information)				
INCOME STATEMENT DATA					
Net sales from continuing operations	**50,624**	**44,267**	**41,459**	**38,072**	**34,393**
Operating income from continuing operations	**11,526**	**9,982**	**8,964**	**6,781**	**7,642**
Income from associated companies	804	293	441	412	264
Financial income	64	198	384	531	354
Interest expense	(692)	(551)	(290)	(237)	(266)
Income before taxes from continuing operations	**11,702**	**9,922**	**9,499**	**7,487**	**7,994**
Taxes	(1,733)	(1,468)	(1,336)	(947)	(1,169)
Net income from continuing operations	**9,969**	**8,454**	**8,163**	**6,540**	**6,825**
Net income from discontinued operations			70	5,428	377
Group net income	**9,969**	**8,454**	**8,233**	**11,968**	**7,202**
Attributable to:					
Shareholders of Novartis AG	9,794	8,400	8,195	11,946	7,175
Non-controlling interests	175	54	38	22	27
Operating income from discontinued operations (including divestment gains)			70	6,152	532
Basic earnings per share ($):					
Continuing operations	4.28	3.70	3.59	2.81	2.90
Discontinued operations			0.03	2.34	0.16
Total	4.28	3.70	3.62	5.15	3.06
Diluted earnings per share ($):					
Continuing operations	4.26	3.69	3.56	2.80	2.88
Discontinued operations			0.03	2.33	0.16
Total	4.26	3.69	3.59	5.13	3.04
Cash dividends[1]	4,486	3,941	3,345	2,598	2,049
Cash dividends per share in CHF[2]	2.20	2.10	2.00	1.60	1.35
Operating income from continuing operations earnings per share ($):					
Basic	5.04	4.40	3.96	2.93	3.26
Diluted	5.01	4.38	3.92	2.91	3.24

(1) Cash dividends represent cash payments in the applicable year that generally relate to earnings of the previous year.

(2) Cash dividends per share represent dividends proposed that relate to earnings of the current year. Dividends for 2010 will be proposed to the Annual General Meeting on February 22, 2011 for approval.

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	Year Ended December 31,				
	2010	2009	2008	2007	2006
			($ millions)		
BALANCE SHEET DATA					
Cash, cash equivalents and marketable securities & derivative financial instruments	8,134	17,449	6,117	13,201	7,955
Inventories	6,093	5,830	5,792	5,455	4,498
Other current assets	12,458	10,412	8,972	8,774	8,215
Non-current assets	96,633	61,814	57,418	48,022	46,604
Assets held for sale related to discontinued operations					736
Total assets	**123,318**	**95,505**	**78,299**	**75,452**	**68,008**
Trade accounts payable	4,788	4,012	3,395	3,018	2,487
Other current liabilities	19,870	15,458	13,109	13,623	13,540
Non-current liabilities	28,891	18,573	11,358	9,415	10,480
Liabilities related to discontinued operations					207
Total liabilities	**53,549**	**38,043**	**27,862**	**26,056**	**26,714**
Issued share capital and reserves attributable to shareholders of Novartis AG	63,196	57,387	50,288	49,223	41,111
Non-controlling interests	6,573	75	149	173	183
Total equity	**69,769**	**57,462**	**50,437**	**49,396**	**41,294**
Total liabilities and equity	**123,318**	**95,505**	**78,299**	**75,452**	**68,008**
Net assets	69,769	57,462	50,437	49,396	41,294
Outstanding share capital	832	825	820	815	850
Total outstanding shares (millions)	2,289	2,274	2,265	2,264	2,348

Cash Dividends per Share

Cash dividends are translated into US dollars at the Reuters Market System Rate on the payment date. Because we pay dividends in Swiss francs, exchange rate fluctuations will affect the US dollar amounts received by holders of ADSs.

Year Earned	Month and Year Paid	Total Dividend per share (CHF)	Total Dividend per share in $ ($)
2006	March 2007	1.35	1.09
2007	February 2008	1.60	1.53
2008	February 2009	2.00	1.72
2009	March 2010	2.10	1.95
2010[1]	March 2011	2.20	2.34[2]

(1) Dividend to be proposed at the Annual General Meeting on February 22, 2011 and to be distributed March 1, 2011.

(2) Translated into US dollars at the 2010 Reuters Market System period end rate of $1.06 to the Swiss franc. This translation is an example only, and should not be construed as a representation that the Swiss franc amount represents, or has been or could be converted into US dollars at that or any other rate.

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Exchange Rates

The following table shows, for the years and dates indicated, certain information concerning the rate of exchange of US dollar per Swiss franc based on exchange rate information found on Reuters Market System. The exchange rate in effect on January 25, 2011, as found on Reuters Market System, was CHF 1.00 = $1.06.

Year ended December 31, ($ per CHF)	**Period End**	**Average[1]**	**Low**	**High**
2006	0.82	0.80	0.76	0.84
2007	0.88	0.83	0.80	0.91
2008	0.94	0.93	0.82	1.02
2009	0.97	0.92	0.84	1.00
2010	1.06	0.96	0.86	1.07
Month end,				
August 2010			0.95	0.98
September 2010			0.98	1.03
October 2010			1.01	1.05
November 2010			1.00	1.04
December 2010			1.00	1.07
January 2011[2]			1.03	1.07

(1) Represents the average of the exchange rates on the last day of each full month during the year.

(2) Through January 25, 2011.

3.B Capitalization and Indebtedness

Not applicable.

3.C Reasons for the offer and use of proceeds

Not applicable.

3.D Risk Factors

Our businesses face significant risks and uncertainties. You should carefully consider all of the information set forth in this annual report on Form 20-F and in other documents we file with or furnish to the SEC, including the following risk factors, before deciding to invest in any Novartis securities. Our business as well as our financial condition or results of operations could be materially adversely affected by any of these risks, as well as other risks and uncertainties not currently known to us or not currently deemed to be material.

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Risks Facing Our Business

Our Pharmaceuticals Division faces and will continue to face important patent expirations and aggressive generic competition.

Our Pharmaceuticals Division's products are generally protected by patent rights, which are intended to provide us with exclusive rights to market the patented products. However, those patent rights are of varying strengths and durations. Loss of market exclusivity for one or more important products including the loss of exclusivity on *Diovan*, our best-selling product, which we face in the EU this year, and in the US in 2012 and in Japan in 2013 will have a material adverse effect on our results of operations.

The introduction of a generic version of a branded medicine typically results in a significant and rapid reduction in net sales for the branded product because generic manufacturers typically offer their unbranded versions at sharply lower prices. Such competition can result from the regular expiration of the term of the patent. Such competition can also result from the entry of generic versions of another medicine in the same therapeutic class as one of our drugs, or in another competing therapeutic class. In addition, generic manufacturers frequently take an aggressive approach to challenging patents, conducting so-called "launches at risk" of products that are still under legal challenge for patent infringement, before final resolution of legal proceedings.

We also rely in all aspects of our businesses on unpatented proprietary technology, know-how, trade secrets and other confidential information, which we seek to protect through various measures including confidentiality agreements with licensees, employees, third-party collaborators, or consultants who may have access to such information. If these agreements are breached, our contractual remedies may not be adequate to cover any losses.

Some of our best-selling products are expected to face significant competition beginning as early as this year due to the end of market exclusivity resulting from the expiry of patent protection.

The patent on valsartan, the active ingredient of *Diovan/Co-Diovan/Diovan HCT* (high blood pressure), expires in the major countries of the EU during 2011, in the US in September 2012, and in Japan in 2013. In addition, the active ingredient valsartan is also used in the single-pill combination therapies *Exforge/Exforge HCT* (high blood pressure). While there is an expectation that market exclusivities for *Exforge/Exforge HCT* will remain in the EU and Japan due to regulatory exclusivities, there is a risk that the product may face generic competition in the US beginning in September 2012.

The patent on zoledronic acid, the active ingredient in *Zometa* (cancer), as well as in *Reclast/Aclasta* (osteoporosis), will expire in 2013 in the US and in 2012 and 2013 in other major markets.

The patent on *Femara* (cancer) will expire in 2011 in the US and in major European markets, while generic versions have already been launched in some smaller European markets.

For more information on the patent status of our Pharmaceuticals Division's products see "Item 4. Information on the Company Item 4.B Business Overview Pharmaceuticals Intellectual Property" and "Item 18. Financial Statements note 20".

Clearly, with respect to major products for which the patent terms are expiring, the loss of exclusivity of these products will have a material adverse effect on our business, financial condition and results of operations. In addition, should we unexpectedly lose exclusivity on additional products due to patent litigation or other reasons, this will have a material adverse effect on our business, financial condition and results of operations, both due to the loss of revenue, and the difficulties in planning for such losses.

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Our research and development efforts may not succeed in bringing high-potential products to market, or to do so cost-efficiently enough, or in sufficient numbers.

Our ability to continue to grow our business and to replace sales lost due to the end of market exclusivity depends upon the success of our research and development activities in identifying, and successfully and cost-effectively developing high-potential breakthrough products that address unmet needs, are accepted by patients and physicians, and are reimbursed by payors. To accomplish this, we commit substantial effort, funds and other resources across all our divisions to research and development, both through our own dedicated resources and through various collaborations with third parties. Developing new healthcare products and bringing them to market, however, is a highly costly, lengthy and uncertain process. In spite of our significant investments, there can be no guarantee that our research and development activities will produce a sufficient number of commercially viable new products.

Using the products of our largest division as an example, the research and development process for a new pharmaceutical product can take up to 15 years, or even longer, from discovery to commercial product launch and with a limited available patent life the longer it takes to develop a product, the less time there will be for us to recoup our development costs. New products need not only undergo intensive preclinical and clinical testing, but also must be approved by means of highly complex, lengthy and expensive approval processes which can vary from country to country. During each stage, there is a substantial risk that we will encounter serious obstacles which will further delay us and add substantial expense, or that we will not achieve our goals and, accordingly, may be forced to abandon a product in which we have invested substantial amounts of time and money. Reasons for delays may include: failure of the product candidate in preclinical studies; difficulty enrolling patients in clinical trials or delays or clinical trial holds at clinical trial sites; delays in completing formulation and other testing and work necessary to support an application for regulatory approval; adverse reactions to the product candidate or indications of other safety concerns; insufficient clinical trial data to support the safety or efficacy of the product candidate; our inability to manufacture sufficient quantities of the product candidate for development or commercialization activities in a timely and cost-efficient manner; and failure to obtain, or delays in obtaining, the required regulatory approvals for the product candidate or the facilities in which it is manufactured. In addition, FDA and other governmental health authorities have recently begun to intensify their scrutiny of pharmaceutical companies' compliance with regulations related to the development of new products, thus adding to the obstacles and costs we face in bringing new products to market.

Our Vaccines and Diagnostics Division faces challenges similar to those faced by our Pharmaceuticals Division in developing and bringing to market new vaccines. In particular, our Vaccines and Diagnostics Division has been working to fully develop and bring to market two vaccines, *Menveo* and *Bexsero*, to combat different strains of meningococcal disease in patients of a wide range of age groups. These products are the primary products in the division's pipeline. If our Vaccines and Diagnostics Division were unable to successfully develop one or both of these products, or if the partial or full approvals of either or both of these products were significantly delayed, it could have a material adverse effect on the medium to long-term success of the division, and of the Group as a whole.

In addition, our Sandoz Division has made, and expects to continue to make, significant investments in the development of biotechnology based, "biologic" medicines intended for sale as bioequivalent or "biosimilar" generic versions of currently-marketed biotechnology products. While the development of such products can be somewhat less costly and complex than the development of originator biologic medicines, to date many countries do not yet have an established legislative or regulatory pathway which would permit such products to be sold in a manner in which the biosimilar product would be readily substitutable for the originator product. Significant delays in the development of such pathways, or significant impediments that may ultimately be built into such pathways, could diminish the value of the investments that Sandoz has made, and will continue to make, in its biotechnology operations, and could have a material adverse effect on the long-term success of the Group as a whole.

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If we are unable to cost-effectively maintain an adequate flow of successful new products and new indications for existing products sufficient to cover our substantial research and development costs and to replace sales lost as older products are lost to generic competition (including the significant number of important products likely to face generic competition in the near future), or are displaced by competing products or therapies, this could have a material adverse effect on our business, financial condition or results of operations. For a description of the approval processes which must be followed to market our products, see the sections headed "Regulation" included in the descriptions of our four operating divisions under "Item 4. Information on the Company Item 4.B Business Overview."

Increasing regulatory scrutiny of drug safety and efficacy has and is likely to continue to adversely affect us.

Following several widely publicized issues in recent years, health regulators are increasingly focusing on product safety. Recently, the Obama Administration has publicly emphasized the importance of enforcing US drug safety regulations. In addition, authorities have paid increased attention to the risk/benefit profile of pharmaceutical products with an increasing emphasis on product safety and the value-added of products. These developments have led to requests for more clinical trial data, for the inclusion of a significantly higher number of patients in clinical trials, and for more detailed analyses of the trials. As a result, the already lengthy and expensive process of obtaining regulatory approvals for pharmaceutical products has become even more challenging.

In addition, for the same reason, the post-approval regulatory burden has been increasing. Approved drugs have increasingly been subject to requirements such as risk evaluation and mitigation strategies (REMS), Risk Management Plans, comparative effectiveness studies, Health Technology Assessments and requirements to conduct post-approval Phase IV clinical trials to gather far more detailed safety and other data on products. These requirements have the effect of making the maintenance of regulatory approvals and achieving reimbursement for our products increasingly expensive, and further heightening the risk of recalls, product withdrawals, or loss of market share.

Like our industry peers, we have been required by health authorities to conduct additional clinical trials, and to submit additional analyses of our data in order to obtain product approvals. We have had REMS and other such requirements imposed as a condition of approval of our new drugs. By increasing the costs of, and causing delays in obtaining approvals and creating a risk that safe and efficacious products will not be approved, or will be removed from the market after previously having been approved these regulatory requirements have had, and likely will continue to have, a material adverse effect on our business, financial condition and results of operations.

Our business is increasingly affected by pressures on pricing for our products.

The growth of overall healthcare costs as a percentage of gross domestic product in many countries means that governments and payors are under intense pressure to control spending even more tightly. These pressures are particularly strong given the lingering effects of the recent global economic and financial crisis, including the ongoing debt crisis in certain countries in Europe. As a result, our businesses and the healthcare industry in general are operating in an ever more challenging environment with very significant pricing pressures. These ongoing pressures affect all of our businesses that rely on reimbursement including Pharmaceuticals, Sandoz and Vaccines and involve government-imposed industry-wide price reductions, mandatory pricing systems, reference pricing initiatives, an increase in imports of drugs from lower-cost countries to higher-cost countries, shifting of the payment burden to patients through higher co-payments, limiting physicians' ability to choose among competing medicines, mandatory substitution of generic drugs and growing pressure on physicians to reduce the prescribing of patented prescription medicines. Such initiatives include the 2010 enactment of healthcare reform in the US, and its forthcoming implementation.

As a result of such measures, we faced downward pricing pressures on our branded and generic drugs in many countries in 2010. For example, Greece imposed temporary price cuts of from 3-27%. Germany

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increased the required rebate for certain products from 6-16%. Turkey imposed a discount on certain products of from 11-23%. And Spain imposed a discount of 7.5% on branded drugs and a discount of 25% on generic drugs.

We expect these efforts to continue in 2011 as healthcare payors around the globe in particular government-controlled health authorities, insurance companies and managed care organizations step up initiatives to reduce the overall cost of healthcare, restrict access to higher-priced new medicines, increase the use of generics and impose overall price cuts. For more information on price controls and on our challenging business environment see "Item 4. Information on the Company Item 4.B Business Overview Pharmaceuticals Price Controls."

Failure to comply with law, and resulting legal proceedings may have a significant negative effect on our results of operations.

We are obligated to comply with the laws of the approximately 140 countries in which we operate, covering an extremely wide range of activities. To that end, we have a strong global compliance with law program in place. Nonetheless, despite our efforts, any failure to comply with law could lead to substantial liabilities that may not be covered by insurance, and could affect our business and reputation.

In particular, in recent years, there has been a trend of increasing litigation and government investigations against companies operating in the industries of which we are a part, especially in the US. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time, including proceedings regarding product liability, commercial disputes, employment and wrongful discharge, antitrust, securities, sales and marketing practices, health and safety, environmental, tax, privacy, and intellectual property matters. Such proceedings are inherently unpredictable, and large verdicts sometimes occur. As a consequence, we may in the future incur judgments or enter into settlements of claims that could have a material adverse effect on our results of operations or cash flows.

In addition, governments and regulatory authorities have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, insider trading, antitrust and trade restrictions. Responding to such investigations is costly, and a significant diversion of management's attention from our business. In addition, such investigations may affect our reputation and create a risk of potential exclusion from government reimbursement programs in the US and other countries. These factors have contributed to decisions by us and other companies in our industry to enter into settlement agreements with governmental authorities around the world. Those settlements have involved and may continue to involve large cash payments, including the potential repayment of amounts allegedly obtained improperly and penalties up to treble damages. In addition, settlements of healthcare fraud cases often require companies to enter into a corporate integrity agreement, which is intended to regulate company behavior for a period of years. Also, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Our businesses have been subject, from time to time, to governmental investigations and information requests by regulatory authorities. For example, our US affiliate Novartis Pharmaceuticals Corporation (NPC) recently settled parallel civil and criminal investigations by the US government into allegations of potential inappropriate marketing and promotion of six Novartis drugs. As part of the settlement, NPC agreed to plead guilty to one misdemeanor, and to resolve civil charges against it, agreeing to pay a total of $422.5 million, and to enter into a five-year Corporate Integrity Agreement.

At the same time, our Sandoz Division may, from time to time, seek approval to market a generic version of a product before the expiration of patents claimed by one of our competitors for the branded product. We do this in cases where we believe that the relevant patents are invalid, unenforceable, or would not be infringed by our generic product. As a result, affiliates of our Sandoz Division frequently face patent litigation, and in certain circumstances, we may elect to market a generic product even though

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patent infringement actions are still pending. Should we elect to proceed in this manner and conduct a "launch at risk," we could face substantial damages if the final court decision is adverse to us.

Separately, the US affiliates of our Pharmaceuticals and Sandoz Divisions are the subjects of lawsuits brought by private plaintiffs and a number of state and local governments alleging that they have fraudulently overstated the Average Wholesale Price and "best price," which are, or have been, used by the US federal and state governments in the calculation of, respectively, US Medicare reimbursements and Medicaid rebates. While a Novartis affiliate was successful on appeal in one of these actions, juries have awarded plaintiffs substantial damages in three trials against Novartis affiliates to date. More trials are expected in the future.

In addition, the US affiliate of our Pharmaceuticals Division was sued by certain of its pharmaceutical sales representatives alleging that the affiliate violated wage and hour laws by failing to pay them overtime compensation. These lawsuits are part of a number of actions pending against pharmaceutical companies that challenge the industry's long-term practice of treating pharmaceutical sales representatives as salaried employees. In January 2009, the trial court held that the pharmaceutical sales representatives were not entitled to overtime pay under the federal Fair Labor Standards Act and corresponding state wage and hour laws. Plaintiffs appealed the judgment to the US Court of Appeals, which vacated the judgment of the trial court in July 2010, and remanded the case to the SDNY for further proceedings. We have sought the US Supreme Court's permission to appeal the Court of Appeals' reversal of the trial court's decision. Should we fail to succeed in defeating the pharmaceutical sales representatives' suit, we would be required to comply with orders which may be disruptive and costly to our business.

Adverse judgments or settlements in any of these cases could have a material adverse effect on our business, financial condition and results of operations.

For more detail regarding specific legal matters currently pending against us and provisions for such matters, see "Item 18. Financial Statements note 20." See also " Our reliance on third parties for the performance of key business functions heightens the risks faced by our businesses" below.

The manufacture of our products is highly regulated and complex, and may result in a variety of issues that could lead to extended supply disruptions and significant liability.

The products we market and sell are either manufactured at our own dedicated manufacturing facilities or by third parties. In either case, we must ensure that all manufacturing processes comply with current Good Manufacturing Practices (cGMP) and other applicable regulations, as well as with our own high quality standards. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA, and such health authorities have recently begun to intensify their scrutiny of manufacturers' compliance with such requirements. If we or our third-party suppliers fail to comply fully with these requirements then there could be a regulatorily-required shutdown of production facilities or production lines, which in turn could lead to product shortages, or to our being entirely unable to supply product to patients for an extended duration. This, in turn, could lead to a significant loss of sales revenue. In addition, health authorities have begun to impose significant penalties for such failures to comply with cGMP. A failure to comply fully with cGMP could also lead to a delay in the approval of new products to be manufactured at the impacted site.

Like our competitors, we have faced significant manufacturing issues, and have received Warning Letters relating to such manufacturing issues. For example, in December 2010, a CIBA Vision manufacturing facility in Cidra, Puerto Rico received a Warning Letter from the FDA, primarily as a result of questions involving the testing methods used for certain contact lenses manufactured there. As a result, CIBA Vision recalled the product. An action plan is under development and will be presented to the FDA. However, there can be no guarantee of the outcome of this matter. Nor can there be any guarantee that we will not face similar such issues in the future, or that we will successfully manage such issues when they arise.

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In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply. As a result, the inherent fragility of certain of our production processes may cause the production of one or more of our products to be disrupted from time to time.

In particular, an increasing portion of our portfolio, including products from our Pharmaceuticals, Vaccines and Diagnostics, and Sandoz Divisions, are "biologic" products. Unlike traditional "small-molecule" drugs, biologic drugs cannot be manufactured synthetically, but typically must be produced from living plant or animal micro-organisms. As a result, the production of biologic drugs which meet all regulatory requirements is especially complex. Even slight deviations at any point in the production process may lead to batch failures or recalls. In addition, because the production process is based on living micro-organisms, the process could be affected by contaminants which could impact those micro-organisms. In such an event, production shutdowns and extensive and extended decontamination efforts may be required.

Finally, in addition to potential liability for government penalties, because our products are intended to promote the health of patients, for some of our products, any supply disruption, or other charges regarding production issues, could subject us to lawsuits or to allegations that the public health, or the health of individuals, has been endangered.

In sum, a disruption in the supply of certain key products whether as a result of a failure to comply with applicable regulations, the fragility of the production process, or our failure to accurately predict demand could have a material adverse effect on our business, financial condition or results of operations.

The after-effects of the recent global economic and financial crisis may have a material adverse effect on our results.

Many of the world's largest economies and financial institutions continue to be impacted by the recent global economic and financial crisis, with some continuing to face financial difficulty, a decline in asset prices, liquidity problems and limited availability of credit. It is uncertain how long these effects will last, or whether economic and financial trends will worsen or improve. Such uncertain economic times may have a material adverse effect on our revenues, results of operations, financial condition and ability to raise capital. For example, the ongoing debt crisis in certain countries in Europe have increased pressures on those countries, and on payors in those countries to force healthcare companies to decrease the prices at which we may sell them our products. The debt crisis has also given rise to concerns that some countries may not be able to pay us for our products at all.

In addition, the varying impact of difficult economic times on the economies of different countries has impacted, and may continue to unpredictably impact, the translation of our operating results into US dollars, our reporting currency. This is particularly so given recent financial troubles in many European economies, and the resultant investor concerns about the future of the Euro. The financial and debt crises may also cause the value of our investments in our pension plans to decrease, requiring us to increase our funding of those pension plans. In addition, the financial crisis may also result in a lower return on our financial investments, and a lower value on some of our assets. Alternately, the financial crisis may result in a return to inflation, which could lead to higher interest rates, which would increase our costs of raising capital. See also " If any of numerous key assumptions and estimates in calculating our pension plan obligations turn out to be different from our actual experience, we may be required to increase substantially our contributions to pension plans as well as our pension-related costs in the future" below, and " Foreign exchange fluctuations may adversely affect our earnings and the value of some of our assets" below.

To the extent that the economic and financial crisis is directly affecting consumers, some of our businesses, including the business units of our Consumer Health Division, may be particularly sensitive to

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declines in consumer spending. In addition, our Pharmaceuticals, Vaccines and Diagnostics, and Sandoz Divisions may not be immune to consumer cutbacks, particularly given the increasing requirements in certain countries that patients pay a larger contribution toward their own healthcare costs. As a result, there is a risk that consumers may cut back on prescription drugs and vaccines, as well as consumer health products, to help cope with rising costs and difficult economic times.

To the extent that the economic and financial crisis is directly affecting businesses, it may also lead to a disruption or delay in the performance of third parties on which we rely for parts of our business, including licensees and collaboration partners, distributors, clinical trial providers and suppliers of products, intermediates and other goods or services. Such disruptions or delays could have an adverse effect on our business and results of operations. See also " Our reliance on third parties for the performance of key business functions heightens the risks faced by our businesses" below.

At the same time, significant changes and volatility in the equity, credit and foreign exchange markets, in the consumer and business environment, and in the competitive landscape make it increasingly difficult for us to predict our revenues and earnings into the future. As a result, any revenue or earnings guidance or outlook which we have given or might give may be overtaken by events, or may otherwise turn out to be inaccurate. Though we endeavor to give reasonable estimates of future revenues and earnings at the time we give such guidance, under current market conditions there is a significant risk that such guidance or outlook will turn out to be, or to have been, incorrect.

Risks related to our acquisition of a majority interest in Alcon, Inc. and our proposed merger with Alcon.

On August 25, 2010, we completed our acquisition of Nestlé's remaining 52% majority stake in Alcon. This acquisition, on top of the 25% stake in Alcon which we had previously purchased from Nestlé, resulted in our becoming the 77% majority shareholder of Alcon. Afterwards, on December 15, 2010, we announced that we had entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to certain approvals and conditions, which when completed would cause Alcon to be 100% owned by Novartis and enable Alcon to become a new division of Novartis.

The merger is currently expected to be completed during the first half of 2011 and is conditional on clearance of a registration statement by the US Securities and Exchange Commission, two-thirds approval by the shareholders of each of Novartis and Alcon voting at their respective meetings and other customary closing conditions. If the merger is delayed, the timing and/or realization of the anticipated benefits and cost savings from fully integrating the businesses of Novartis and Alcon will be adversely affected, with the delay making it more difficult to maintain business and operational relationships, and relationships with key employees. Once the merger with Alcon is approved and completed, its success will depend, in part, on the combined company's ability to realize the expected benefits and cost savings and to retain and motivate its executives and key employees. See also "Item 18. Financial Statements note 20" for information regarding pending litigation between Alcon's shareholders and Novartis.

An increasing amount of intangible assets and goodwill on our books may lead to significant impairment charges in the future.

The amount of goodwill and other intangible assets on our consolidated balance sheet has increased significantly in recent years, primarily due to acquisitions. Although no significant additional impairments are currently anticipated, impairment testing could lead to material impairment charges in the future.

We regularly review our long-lived intangible and tangible assets, including identifiable intangible assets, investments in associated companies and goodwill, for impairment. Goodwill, acquired research and development, and acquired development projects not yet ready for use are subject to impairment review at least annually. Other long-lived assets are reviewed for impairment when there is an indication that an impairment may have occurred. Impairment testing under IFRS may lead to impairment charges in the future. Any significant impairment charges could have a material adverse effect on our results of

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operations. In 2010, for example, we recorded an intangible asset impairment charge of $704 million after we decided not to pursue further development of Pharmaceuticals Division pipeline products albinterferon alfa-2b, *Mycograb* and ASA404. For a detailed discussion of how we determine whether an impairment has occurred, what factors could result in an impairment and the increasing impact of impairment charges on our results of operations, see "Item 5. Operating and Financial Review and Prospects Item 5.A Operating Results Critical Accounting Policies and Estimates Impairment of Long-Lived Intangible and Tangible Assets" and "Item 18. Financial Statements note 11."

Our indebtedness could adversely affect our operations.

As of December 31, 2010 we had $14.4 billion of non-current financial debt and $8.6 billion of current financial debt. Our current and future debt requires us to dedicate a portion of our cash flow to service interest and principal payments and may limit our ability to engage in other transactions and otherwise places us at a competitive disadvantage to our competitors that have less debt. We may have difficulty refinancing our existing debt or incurring new debt on terms that we would consider to be commercially reasonable, if at all.

Our reliance on third parties for the performance of key business functions heightens the risks faced by our businesses.

We invest a significant amount of effort and financial resources into outsourcing and offshoring certain key business functions with third parties, including research and development collaborations, manufacturing operations, warehousing, distribution activities, certain finance functions, marketing activities, data management and others. We do not control the third parties to whom we outsource these functions, but we depend on them to achieve results which may be significant to us. If these third parties fail to meet our expectations, we may lose our investment in the collaborations and fail to receive the expected benefits. In addition, should any of these third parties fail to comply with the law in the course of their performance of services for us, there is a risk that we could be held responsible for such violations of law, as well. Any such failures by third parties could have a material adverse effect on our business, financial condition or results of operations.

In particular, in many countries, including many less-developed markets, we rely heavily on third party distributors and other agents for the marketing and distribution of our products. Many of these third parties do not have internal compliance resources comparable to those within our organization. Some of these countries are plagued by corruption. If our efforts to screen our third party agents and detect cases of potential misconduct fail, we could be held responsible for the noncompliance of these third parties with applicable laws and regulations, which may have a material adverse effect on our reputation and our business, financial condition or results of operations.

We may not be able to realize the expected benefits of our significant investments in emerging growth markets.

At a time of slowing growth in sales of pharmaceuticals in industrialized countries, many emerging markets have experienced comparatively strong economies, leading to proportionally higher growth and an increasing contribution to the industry's global performance. In 2010, we generated $4.6 billion, or approximately 10% (2009: 9%) of net sales (excluding Alcon) from our six priority emerging markets Brazil, China, India, Russia, South Korea and Turkey as compared with $30.8 billion, or approximately 64% (2009: 65%) of our net sales, in the world's seven largest developed markets. However, combined net sales in the six priority emerging markets grew 12% in constant currency in 2010, compared to 8% sales growth in constant currency in the seven largest developed markets during the same period. As a result of this trend, we have been taking steps to increase our presence in these priority emerging markets and in other emerging markets. For example, we continue to expand a cross-divisional operating structure to accelerate growth in smaller emerging markets and better position the comprehensive presence of all

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Novartis products in these markets. These types of markets include Northern and Sub-Saharan Africa, Central Asia and some countries in Southeast Asia.

There is no guarantee that our efforts to expand our sales in these countries will succeed, or that these countries will continue to experience growth rates in excess of the world's largest markets. Some emerging countries may be especially vulnerable to the after-effects of the recent global financial crisis, or may have very limited resources to spend on healthcare. See " The after-effects of the recent economic and financial crisis may have a material adverse effect on our results" below. Many of these countries have a relatively limited number of persons with the skills and training suitable for employment at an enterprise such as ours. See also " An inability to attract and retain qualified personnel could adversely affect our business" below. In other emerging countries, we may be required to rely on third-party agents, which may put us at risk of liability. See also " Legal proceedings may have a significant negative effect on our results of operations" above. In addition, many of these countries have currencies that fluctuate substantially. If currencies devalue and we cannot offset the devaluations with price increases, our products may become less profitable.

For all these reasons, our sales to emerging growth markets carry significant risks. A failure to continue to expand our business in emerging growth markets could have a material adverse effect on our business, financial condition or results of operations.

Failure to obtain marketing exclusivity periods for new generic products, or to develop differentiated products, as well as intense competition from branded pharmaceuticals companies, may have an adverse effect on the success of our Sandoz Division.

Our Sandoz Division achieves significant revenue opportunities when it secures and maintains exclusivity periods granted for generic products in certain markets particularly the 180-day exclusivity period granted in the US by the Hatch-Waxman Act and when it is able to develop differentiated products with few, if any, generic competitors. Failure to obtain and maintain these market opportunities could have an adverse effect on the success of Sandoz. In addition, the division faces intense competition from branded pharmaceuticals companies, which commonly take aggressive steps to limit the availability of exclusivity periods or to reduce their value. These activities may increase the costs and risks associated with our efforts to introduce generic products and may delay or entirely prevent their introduction.

If any of numerous key assumptions and estimates in calculating our pension plan obligations turn out to be different from our actual experience, we may be required to increase substantially our contributions to pension plans as well as our pension-related costs in the future.

We sponsor pension and other post-employment benefit plans in various forms. These plans cover a significant portion of our current and former associates. We are required to make significant assumptions and estimates about future events in calculating the present value of expected future expense and liability related to these plans. These include assumptions about discount rates we apply to estimated future liabilities, expected returns on plan assets and rates of future compensation increases. In addition, our actuarial consultants provide our management with historical statistical information such as withdrawal and mortality rates in connection with these estimates. Assumptions and estimates used by Novartis may differ materially from the actual results we experience due to changing market and economic conditions (including the effects of the recent global economic and debt crisis, which, to date, have resulted in extremely low interest rates), higher or lower withdrawal rates, or longer or shorter life spans of participants, among other variables. For example, a decrease in the discount rate we apply in determining the present value of expected future obligations of one-half of one percent would have increased our year-end defined benefit obligation by $1.1 billion. Any differences between our assumptions and estimates and our actual experience could have a material effect on our results of operations and financial condition. For more information on obligations under retirement and other post-employment benefit plans and underlying actuarial assumptions, see "Item 5. Operating and Financial Review and Prospects

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Item 5.A Operating Results Critical Accounting Policies and Estimates Retirement and other post-employment plans" and "Item 18. Financial Statements note 25". See also " The after-effects of the recent economic and financial crisis may have a material adverse effect on our results" above.

Changes in tax laws or their application could adversely affect our results of operations.

The integrated nature of our worldwide operations enables us to reduce the effective tax rate on our earnings because a portion of our earnings are taxed at more favorable rates in some jurisdictions. Changes in tax laws or their application with respect to matters such as transfer pricing, intercompany dividends, controlled corporations, and limitations on tax relief allowed on the interest on intercompany debt, could increase our effective tax rate and adversely affect our financial results.

Our OTC Business Unit faces adverse impacts from increased competition, as well as potential questions of safety and efficacy.

The OTC Business Unit of our Consumer Health Division sells over-the-counter medicines, many of which contain ingredients also sold by competitors in the OTC industry. Particularly in the US, our branded OTC products compete against "store brand" products that are made with the same active ingredients as ours. These products do not carry our trusted brand names, but they also do not carry the burden of the expensive advertising and marketing that helped to establish demand for the product. As a result, the store brand products may be sold at lower prices. In recent years, consumers have increasingly begun to purchase store brand OTC products instead of branded products. In addition, in recent years, significant questions have arisen regarding the safety, efficacy and potential for misuse of certain products sold by our OTC Business Unit and its competitors. As a result, health authorities around the world have begun to re-evaluate some important over-the-counter products, leading to restrictions on the sale of some of them and even the banning of certain products. For example, in 2010, the FDA undertook a review of one cough medicine ingredient to consider whether over-the-counter sales of the ingredient remained appropriate. While FDA has not, to date, changed the ingredient's status, further regulatory or legislative action may follow, and litigation has often followed actions such as these, particularly in the US. Additional actions and litigation regarding OTC products are possible in the future. These trends have had, and may continue to have, a significant adverse effect on the success of our OTC Business Unit. See also " The after-effects of the recent economic and financial crisis may have a material adverse effect on our results" above.

Ongoing consolidation among our distributors may increase both the purchasing leverage of key customers and the concentration of credit risk.

Increasingly, a significant portion of our global sales are made to a relatively small number of US drug wholesalers, retail chains and other purchasing organizations. For example, our three most important customers globally are all in the US, and accounted for approximately 8%, 8% and 7%, respectively, of Group net sales in 2010. The largest trade receivables outstanding were for these three customers, amounting to 9%, 5% and 6%, respectively, of the Group's trade receivables at December 31, 2010. The trend has been toward further consolidation among our distributors, especially in the US. As a result, our distributors are gaining additional purchasing leverage, which increases the pricing pressures facing our businesses. Moreover, we are exposed to a concentration of credit risk as a result of this concentration among our customers. If one or more of our major customers experienced financial difficulties, the effect on us would be substantially greater than in the past. This could have a material adverse effect on our business, financial condition and results of operations.

An inability to attract and retain qualified personnel could adversely affect our business.

We highly depend upon skilled personnel in key parts of our organization, and we invest heavily in recruiting and training qualified individuals. The loss of the service of key members of our organization

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particularly senior members of our scientific and management teams could delay or prevent the achievement of major business objectives. In addition, the success of our research and development activities is particularly dependent on our ability to attract and retain sufficient numbers of high-quality researchers and development specialists.

Future economic growth will demand more talented associates and leaders, yet the market for talent will become increasingly competitive. Shifting demographic trends will result in fewer students, fewer graduates and fewer people entering the workforce in the Western world in the next 10 years. The supply of talent for key functional and leadership positions is decreasing, and a talent gap is clearly visible for some professions and geographies engineers in Germany, for example. Recruitment is increasingly regional or global in specialized fields such as clinical development, biosciences, chemistry and information technology.

Emerging markets are expected to be a driving force in global growth, but in countries like Russia and China there is a limited pool of executives with the training and international experience needed to work successfully in a global organization like Novartis. Moreover, younger generations around the world have changing expectations toward careers, engagement and the integration of work in their overall lifestyles. Geographic mobility is expected to decrease, and talent in emerging countries anticipate ample career opportunities closer to home than in the past.

We face intense competition for an increasingly limited pool of qualified individuals from numerous pharmaceutical and biotechnology companies, universities, governmental entities and other research institutions. As a result, we may be unable to attract and retain qualified individuals in sufficient numbers, which would have an adverse effect on our business, financial condition and results of operations.

Environmental liabilities may adversely impact our results of operations.

The environmental laws of various jurisdictions impose actual and potential obligations on us to remediate contaminated sites. While we have set aside substantial provisions for worldwide environmental liabilities, there is no guarantee that additional costs will not be incurred beyond the amounts for which we have provided in the Group consolidated financial statements. If we are required to further increase our provisions for environmental liabilities in the future, or if we fail to properly manage environmental risks, this could have a material adverse effect on our business, financial condition and results of operations. For more detail regarding environmental matters, see "Item 4.D Property, Plants and Equipment Environmental Matters" and "Item 18. Financial Statements note 20."

Foreign exchange fluctuations may adversely affect our earnings and the value of some of our assets.

In the past year, the US dollar, our reporting currency, has suffered significant decreases in value against other world currencies. Because a significant portion of our earnings and expenditures are in currencies other than the US dollar, these decreases have had a significant impact on our reported net sales and earnings. In 2010, 36% of our net sales were made in US dollars, 29% in euros, 8% in Japanese yen, 2% in Swiss francs and 25% in other currencies. During the same period, 34% of our expenses arose in US dollars, 27% in euros, 13% in Swiss francs, 4% in Japanese yen and 22% in other currencies. As has happened in the recent past, changes in exchange rates between the US dollar and other currencies can result in increases or decreases in our sales, costs and earnings. Fluctuations in exchange rates between the US dollar and other currencies may also affect the reported value of our assets measured in US dollars and the components of shareholders' equity. For more information on the effects of currency fluctuations on our consolidated financial statements and on how we manage currency risk, see "Item 5.A Operating Results Effects of Currency Fluctuations" and "Item 11. Quantitative and Qualitative Disclosures about Non-Product-Related Market Risk." See also " The after-effects of the recent economic and financial crisis may have a material adverse effect on our results" above.

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Significant disruptions of information technology systems or breaches of data security could adversely affect our business.

Our business is increasingly dependent on critical, complex and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of our computer systems make them potentially vulnerable to breakdown, malicious intrusion and computer viruses which may result in the impairment of production and key business processes.

In addition, our systems are potentially vulnerable to data security breaches whether by employees or others which may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers and others.

Such disruptions and breaches of security could have a material adverse effect on our business, financial condition and results of operations.

Increasing use of social media could give rise to liability or breaches of data security.

Novartis and our associates are increasingly relying on social media tools as a means of communications. To the extent that we seek as a company to use these tools as a means to communicate about our products or about the diseases our products are intended to treat, there are significant uncertainties as to either the rules that apply to such communications, or as to the interpretations that health authorities will apply to the rules that exist. As a result, despite our efforts to comply with applicable rules, there is a significant risk that our use of social media for such purposes may cause us to nonetheless be found in violation of them. In addition, because of the universal availability of social media tools, our associates may make use of them in ways that may not be sanctioned by the company, and which may give rise to liability, or which could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers and others. In either case, such uses of social media could have a material adverse effect on our business, financial condition and results of operations.

Earthquakes could adversely affect our business.

Our corporate headquarters, the headquarters of our Pharmaceuticals and Consumer Health Divisions, and certain of our major Pharmaceuticals Division production facilities are located near earthquake fault lines in Basel, Switzerland. In addition, other major facilities of our Pharmaceuticals, Vaccines and Diagnostics, Sandoz and Consumer Health Divisions are located near major earthquake fault lines in various locations around the world. In the event of a major earthquake, we could experience business interruptions, destruction of facilities and loss of life, all of which could have a material adverse effect on our business, financial condition and results of operations.

Risks Related To Our ADSs

The price of our ADSs and the US dollar value of any dividends may be negatively affected by fluctuations in the US dollar/Swiss franc exchange rate.

Our American Depositary Shares (ADSs) trade on the New York Stock Exchange (NYSE) in US dollars. Since the shares underlying the ADSs are listed in Switzerland on the SIX Swiss Exchange (SIX) and trade in Swiss francs, the value of the ADSs may be affected by fluctuations in the US dollar/Swiss franc exchange rate. In addition, since any dividends that we may declare will be denominated in Swiss francs, exchange rate fluctuations will affect the US dollar equivalent of dividends received by holders of ADSs. If the value of the Swiss franc decreases against the US dollar, the price at

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which our ADSs trade may and the value of the US dollar equivalent of any dividend will decrease accordingly.

Holders of ADSs may not be able to exercise preemptive rights attached to shares underlying ADSs.

Under Swiss law, shareholders have preemptive rights to subscribe for cash for issuances of new shares on a pro rata basis. Shareholders may waive their preemptive rights in respect of any offering at a general meeting of shareholders. Preemptive rights, if not previously waived, are transferable during the subscription period relating to a particular offering of shares and may be quoted on the SIX. US holders of ADSs may not be able to exercise the preemptive rights attached to the shares underlying their ADSs unless a registration statement under the US Securities Act of 1933 is effective with respect to such rights and the related shares, or an exemption from this registration requirement is available. In deciding whether to file such a registration statement, we would evaluate the related costs and potential liabilities, as well as the benefits of enabling the exercise by ADS holders of the preemptive rights associated with the shares underlying their ADSs. We cannot guarantee that a registration statement would be filed, or, if filed, that it would be declared effective. If preemptive rights could not be exercised by an ADS holder, JPMorgan Chase Bank, N.A., as depositary, would, if possible, sell the holder's preemptive rights and distribute the net proceeds of the sale to the holder. If the depositary determines, in its discretion, that the rights could not be sold, the depositary might allow such rights to lapse. In either case, the interest of ADS holders in Novartis would be diluted and, if the depositary allowed rights to lapse, holders of ADSs would not realize any value from the granting of preemptive rights.

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Item 4. Information on the Company

4.A History and Development of Novartis

Novartis AG

Novartis AG was incorporated on February 29, 1996 under the laws of Switzerland as a stock corporation (*Aktiengesellschaft*) with an indefinite duration. On December 20, 1996, our predecessor companies, Ciba-Geigy and Sandoz, merged into this new entity, creating Novartis. We are domiciled in and governed by the laws of Switzerland. Our registered office is located at the following address:

Novartis AG
Lichtstrasse 35
CH-4056 Basel, Switzerland
Telephone: 011-41-61-324-1111
Web: www.novartis.com

The Novartis Group is a multinational group of companies specializing in the research, development, manufacturing and marketing of a broad range of healthcare products led by innovative pharmaceuticals. Novartis AG, our Swiss holding company, owns, directly or indirectly, 100% of most significant operating companies, with the particular exception of Alcon, Inc. and its subsidiaries, which are currently majority owned. For a list of our significant operating subsidiaries, see "Item 18. Financial Statements note 31."

Important Corporate Developments 2008-January 2011

The following is an overview of certain important developments between 2008 and January 2011:

2011

January	Novartis announces agreement to acquire Genoptix, Inc. in an all cash tender offer at $25.00 per share. This represents a total equity value of $470 million and an enterprise value of $330 million. Genoptix laboratory service offerings would provide a strategic fit with the portfolio of our Molecular Diagnostics unit and would complement our internal capabilities aimed at improving health outcomes by advancing individualized treatment programs.

2010

December	Novartis announces $500 million investment over the next five years in healthcare in Russia, including for the construction of a new Novartis manufacturing plant in St. Petersburg, and the expansion of research and development collaborations and public health alliances.
	Novartis announces that it has entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to certain approvals and conditions, which when completed would cause Alcon to be 100% owned by Novartis and enable Alcon to become a new division of Novartis focused on eye care. Novartis also announced the reactivation of its share buyback program.
November	Novartis discontinues development of ASA404 for non-small cell lung cancer, resulting in an intangible asset impairment charge of approximately $120 million.
October	Novartis discontinues development of two investigational compounds: albinterferon alfa-2b for hepatitis C and *Mycograb* for invasive candidiasis, resulting in impairment and other charges of approx $584 million.

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September	Novartis Pharmaceuticals Corporation (NPC), a US subsidiary of Novartis AG, agrees to settle civil and criminal investigations by the US Government regarding *Trileptal* and five other products. As part of the settlement, NPC agreed to plead guilty to one misdemeanor, and to pay criminal fines and civil penalties totaling $422.5 million. NPC also entered into a five-year Corporate Integrity Agreement, which will require it to implement additional compliance-related measures.
	Novartis sells US rights to the overactive bladder treatment *Enablex* for $400 million in cash from Warner Chilcott.
August	Novartis completes 77% majority ownership of Alcon adding new growth platform in eye care to its leading healthcare portfolio.
July	NPC agrees to settle gender discrimination claims associated with class action brought on behalf of female members of sales force for payment of $152.5 million to eligible class members, and commitment to implement comprehensive programs designed to ensure that all members of its sales force are treated fairly. The court approved the settlement in November.
April	Sandoz announces the acquisition of Oriel Therapeutics. The sale closed in June, gaining rights to a portfolio of respiratory products targeting asthma and COPD.
March	Novartis successfully completes a $5.0 billion bond market transaction in three tranches.
February	Novartis gains exclusive rights to DEB025, an antiviral agent in Phase IIb development as potential first-in-class hepatitis C therapy.
January	Novartis announces its intention to gain full ownership of Alcon by first completing the April 2008 agreement with Nestlé S.A. to acquire a 77% majority stake in Alcon, and subsequently entering into an all-share direct merger with Alcon for the remaining 23% minority stake.

2009

December	Novartis enters into an agreement to acquire Corthera Inc. for $120 million plus potential milestone payments related to the successful development and commercialization of relaxin, a potential treatment for acute decompensated heart failure. The acquisition was completed in February 2010.
	Novartis licenses to Prometheus Laboratories the rights to sell *Proleukin* in the US, commencing in February 2010. Novartis retains the right to sell *Proleukin* outside of the US.
November	Novartis announces $1 billion investment over the next five years to significantly expand the China Novartis Institutes for BioMedical Research so that it would become the largest pharmaceutical research and development institute in China, and the third largest Novartis research institute worldwide.
	Novartis enters into agreement to acquire 85% stake in Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd., which offers marketed vaccine products in China and research and development projects focused on viral and bacterial diseases, for $125 million.
	Novartis opens large-scale flu cell culture vaccine and adjuvant manufacturing facility in Holly Springs, North Carolina, in partnership with US Department of Health and Human Services, Biomedical Research and Development Authority.

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	Novartis announces agreement to obtain rights outside the US to INC424, a promising Janus kinase inhibitor in Phase III development as well as worldwide rights to potential c-Met inhibitor compound, from Incyte Corporation for a combined upfront payment of $150 million as well as an immediate $60 million milestone payment and rights to potential future milestone payments and royalties based on future sales.
October	Novartis gains exclusive worldwide rights to PTK796, a potential first-in-class IV and oral broad-spectrum antibiotic in Phase III development, from Paratek Pharmaceuticals for upfront payment and eligibility for future milestone payments as well as royalties based on future sales.
	Novartis enters into agreement for exclusive US and Canadian rights to *Fanapt*, an FDA-approved oral therapy for schizophrenia, with Vanda Pharmaceuticals Inc. for an upfront payment of $200 million, eligibility for additional milestone payments and sales royalties.
June	Novartis completes an open offer to acquire an additional stake in its majority-owned Indian subsidiary, Novartis India Ltd., increasing its holding to nearly 76.4% from the previous level of 50.9%. The transaction represented a total value of approximately $80 million.
	Novartis successfully launches a EUR 1.5 billion notes issue.
May	Novartis signs definitive agreement to acquire for EUR 925 million ($1.3 billion) the specialty generic injectables business of EBEWE Pharma, providing Sandoz the Group's generics division an opportunity to create a global platform for growth while improving access for patients to many generic oncology medicines. The transaction closed in September.
February	Novartis gains worldwide rights to elinogrel (PRT128), a Phase II anti-clotting compound with potential to reduce risk of heart attack and stroke, from Portola Pharmaceuticals Inc. for an upfront payment of $75 million and rights to future milestone payments and royalties based on future sales.
	Novartis successfully completes a $5.0 billion debt offering in the US.
2008	
October	Novartis enters into an agreement to acquire the pulmonary business unit of Nektar Therapeutics for $115 million. The transaction closed in December.
July	Novartis acquires majority ownership in Speedel, a Swiss-based pharmaceuticals company, and commits to acquire all remaining shares in a mandatory public tender offer (completed in September 2008), with total costs estimated at approximately $888 million.
	Novartis enters into a strategic partnership with Lonza, a Swiss pharmaceuticals manufacturing company, to accelerate growth of its biologic pharmaceuticals pipeline.
June	Novartis gains rights to PTZ601, a promising hospital antibiotic in clinical development, through the full acquisition of Protez Pharmaceuticals for $102 million in total and potential future payments of an additional $300 million.
	Two Swiss franc bonds are successfully issued totaling CHF 1.5 billion.

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April — Novartis strengthens its healthcare portfolio through an agreement with Nestlé S.A. under which Novartis obtained the right to acquire majority ownership in Alcon Inc., the world leader in eye care, including pharmaceutical, surgical and consumer products, in two steps. In the first step, completed in July 2008, Novartis acquired a 25% stake in Alcon from Nestlé for $10.4 billion. The optional second step provides Novartis the right to buy, and Nestlé the right to sell, the remaining 52% stake in Alcon held by Nestlé between January 2010 and July 2011 for up to approximately $28 billion.

For information on our principal expenditures on property, plants and equipment, see "Item 4. Information on the Company 4.D Property, Plants & Equipment." For information on our significant investments in research and development, see the sections headed "Research and Development" included in the descriptions of our four operating divisions under "Item 4. Information on the Company 4.B Business Overview."

4.B Business Overview

OVERVIEW

Novartis provides healthcare solutions that address the evolving needs of patients and societies worldwide. Our broad portfolio includes innovative medicines, preventive vaccines and diagnostic tools, generic pharmaceuticals and consumer health products. Novartis is the only company to have leadership positions in each of these areas.

The Group's wholly-owned businesses are organized in four global operating divisions:

Pharmaceuticals: Innovative patent-protected prescription medicines

Vaccines and Diagnostics: Human vaccines and blood-testing diagnostics

Sandoz: Generic pharmaceuticals

Consumer Health: OTC (over-the-counter medicines), Animal Health and CIBA Vision (contact lenses and lens-care products)

In addition, the Group's healthcare portfolio is complemented by 77% ownership of Alcon, Inc, which discovers and develops innovative eye care products to improve the quality of life by helping people see better.

Our strategy is to strengthen our healthcare portfolio through sustained investments in innovation, as well as through targeted acquisitions. In April 2008, we announced a significant agreement with Nestlé S.A. providing the right to acquire 77% majority ownership of Alcon in two steps and add this world leader in eye care to our portfolio. In July 2008, the first step was completed when Novartis acquired a 25% stake in Alcon for $10.4 billion in cash. The second step was subsequently completed on August 25, 2010 when we acquired Nestle's 52% majority stake for $28.3 billion in cash. Afterwards, on December 15, 2010, we announced that we had entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to certain approvals and conditions, which when completed would cause Alcon to be 100% owned by Novartis and enable Alcon to become a new division of Novartis focused on eye care. Under the terms of the agreement, the merger consideration will include up to 2.8 Novartis shares and a Contingent Value Amount (CVA) to be settled in cash that will in aggregate equal $168 per share. If the value of 2.8 Novartis shares is more than $168 the number of Novartis shares will be reduced accordingly. The total merger consideration for the non-controlling interest will be $12.9 billion, comprising of up to 215 million Novartis shares and a potential CVA to be settled in cash.

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The merger is currently expected to be completed during the first half of 2011 and is conditional on clearance of a registration statement by the US Securities and Exchange Commission, two-thirds approval by the shareholders of each of Novartis and Alcon voting at their respective meetings and other customary closing conditions. Following the expected successful completion of the merger, Alcon is planned to be established as a new Novartis division that will include CIBA Vision and selected ophthalmic medicines.

Novartis achieved net sales of $50.6 billion in 2010, while net income amounted to $10.0 billion. We invested $9.1 billion ($8.1 billion excluding impairment and amortization charges) in Research & Development in 2010.

Headquartered in Basel, Switzerland, we employed 119,418 full-time equivalent associates, including 16,700 Alcon associates, as of December 31, 2010, and have operations in approximately 140 countries around the world.

Pharmaceuticals Division

Our Pharmaceuticals Division researches, develops, manufactures, distributes and sells branded prescription medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Integrated Hospital Care; and Other additional products. The Pharmaceuticals Division is organized into global business franchises responsible for the development and marketing of various products, as well as a business unit called Novartis Oncology, responsible for the global development and marketing of oncology products. In 2010, the Pharmaceuticals Division accounted for $30.6 billion, or 60%, of Group net sales, and for $8.8 billion, or 72%, of Group operating income (excluding Corporate income and expense, net).

Vaccines and Diagnostics Division

Our Vaccines and Diagnostics Division researches, develops, manufactures, distributes and sells preventive vaccines and diagnostic tools. Novartis Vaccines is a leading global developer and manufacturer of human vaccines. Key products include influenza, meningococcal, pediatric and travel vaccines. Novartis Diagnostics is a blood testing and molecular diagnostics business dedicated to preventing the spread of infectious diseases through novel blood-screening tools that protect the world's blood supply. In 2010, the Vaccines and Diagnostics Division accounted for $2.9 billion, or 6%, of Group net sales, and provided $612 million, or 5%, of the Group's operating income (excluding Corporate income and expense, net).

Sandoz Division

Our Sandoz Division is a leading global generic pharmaceuticals company that develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. The Sandoz Division has activities in Retail Generics, Anti-Infectives, Biopharmaceuticals and Oncology Injectables. In Retail Generics, Sandoz develops, manufactures, distributes and sells active ingredients and finished dosage forms of medicines, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops, manufactures, distributes and sells active pharmaceutical ingredients and intermediates, mainly antibiotics, for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops, manufactures, distributes and sells protein- or biotechnology-based products (known as "biosimilars" or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufactures, distributes and sells cytotoxic products for the hospital market. Sandoz offers approximately 1,000 compounds in more than 130 countries. In 2010, Sandoz accounted for $8.5 billion, or 17%, of Group net sales, and for $1.3 billion, or 10%, of Group operating income (excluding Corporate income and expense, net).

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Consumer Health Division

Our Consumer Health Division consists of three business units: OTC (over-the-counter medicines), Animal Health and CIBA Vision. Each has its own research, development, manufacturing, distribution and selling capabilities. However, none are material enough to the Group to be separately disclosed as a segment. OTC offers readily available consumer medicine. Animal Health provides veterinary products for farm and companion animals. CIBA Vision markets contact lenses and lens care products. In 2010, the Consumer Health Division accounted for $6.2 billion, or 12%, of Group net sales, and for $1.2 billion, or 10%, of Group operating income (excluding Corporate income and expense, net).

Alcon, Inc

Alcon, Inc. is an independent corporation listed on the New York Stock Exchange (NYSE: ACL), which discovers and develops innovative eye care products to improve the quality of life by helping people see better. Since our acquisition of Nestlé's remaining 52% share in Alcon on August 25, 2010, Novartis has been the 77% majority owner of Alcon. With the achievement of the 77% majority ownership, Novartis and Alcon have sought to create greater value together for all stakeholders through collaborations that would benefit both companies. On December 15, 2010, Novartis announced that it had entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to clearance of a registration statement by the US Securities and Exchange Commission, two-thirds approval by the shareholders of each of Novartis and Alcon voting at their respective meetings, and other customary closing conditions. Since the achievement of the 77% majority ownership, and until a 100% merger is completed, all collaborations between the companies are within the framework of arm's length transactions. In 2010, Alcon (consolidated since August 25, 2010) accounted for $2.4 billion, or 5%, of Group net sales, and for $323 million, or 3%, of Group operating income (excluding Corporate income and expense, net). For more information about Alcon see Alcon's 20-F at Item 4.B.

PHARMACEUTICALS

Overview

Our Pharmaceuticals Division is a world leader in offering innovation-driven, patent-protected medicines to patients and physicians.

The Pharmaceuticals Division researches, develops, manufactures, distributes and sells branded pharmaceuticals in the following therapeutic areas:

Cardiovascular and Metabolism

Oncology (including Hematology)

Molecular Diagnostics

Neuroscience and Ophthalmics

Respiratory

Integrated Hospital Care

Other additional products

The Pharmaceuticals Division is organized into global business franchises responsible for the marketing of various products as well as a business unit called Novartis Oncology responsible for the global development and marketing of oncology products. The Pharmaceuticals Division is the largest contributor among the four divisions of Novartis and reported consolidated net sales of $30.6 billion in 2010, which represented 60% of the Group's net sales.

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The division is made up of approximately 80 affiliated companies which together employed 58,424 full-time equivalent associates as of December 31, 2010, and sell products in approximately 140 countries. The product portfolio of the Pharmaceuticals Division includes more than 60 key marketed products, many of which are leaders in their respective therapeutic areas. In addition, the division's portfolio of development projects includes 147 potential new products, and new indications or new formulations for existing products in various stages of clinical development.

Pharmaceuticals Division Products

The following table and summaries describe certain key marketed products and recently launched products in our Pharmaceuticals Division. While we intend to sell all of our marketed products throughout the world, not all products and indications are currently available in every country. Compounds and new indications in development are subject to required regulatory approvals and, in certain instances, contractual limitations. These compounds and indications are in various stages of development throughout the world. For some compounds, the development process is ahead in the US; for others, development in one or more other countries or regions is ahead of that in the US. It may not be possible to obtain regulatory approval for any or all of the new compounds and new indications referred to in this Form 20-F in every country, or at all. In addition, for some of our products, we are required to conduct post-approval studies (Phase IV) to evaluate long-term effects or to gather information on the use of the products under special conditions. See " Regulation" for further information on the approval process. Certain of the products listed below have lost patent protection or are otherwise subject to generic competition. Others are subject to patent challenges by potential generic competitors. See below and " Intellectual Property" for further information on the patent status of our Pharmaceuticals Division's products.

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Key Marketed Products

Therapeutic area	Product	Common name	Indication[1]	Formulation
Cardiovascular and Metabolism	*Amturnide*	Aliskiren, amlodipine besylate and hydrochlorothiazide	Hypertension	Tablet
	Diovan	valsartan	Hypertension Heart failure Post-myocardial infarction	Capsule Tablet
	Diovan HCT/ Co-Diovan	valsartan and hydrochlorothiazide	Hypertension	Tablet
	Eucreas	vildagliptin and metformin	Type 2 diabetes	Tablet
	Exforge	valsartan and amlodipine besylate	Hypertension	Tablet
	Exforge HCT	valsartan, amlodipine besylate and hydrochlorothiazide	Hypertension	Tablet
	Galvus	vildagliptin	Type 2 diabetes	Tablet
	Lescol/ Lescol XL	fluvastatin sodium	Hypercholesterolemia and mixed dyslipidemia in adults Secondary prevention of major adverse cardiac events Slowing the progression of atherosclerosis Heterozygous familial hypercholesterolemia in children and adolescents	Capsule Tablet
	Lotensin/ Cibacen	benazepril hydrochloride	Hypertension Adjunct therapy in congestive heart failure Progressive chronic renal insufficiency	Tablet
	Lotensin HCT/ Cibadrex	benazepril hydrochloride and hydrochlorothiazide	Hypertension	Tablet
	Lotrel	amlodipine besylate and benazepril hydrochloride	Hypertension	Capsule
	Starlix	nateglinide	Type 2 diabetes	Tablet
	Tekturna/Rasilez	aliskiren	Hypertension	Tablet
	Tekturna HCT/Rasilez HCT	aliskiren and hydrochlorothiazide	Hypertension	Tablet
	Tekamlo	aliskiren and amlodipine besylate	Hypertension	Tablet
	Valturna	aliskiren and valsartan	Hypertension	Tablet

(1) Not all indications are available in all countries.

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Therapeutic area	Product	Common name	Indication[1]	Formulation
Oncology	*Afinitor*	everolimus	Advanced renal cell carcinoma after failure of treatment with VEGF-targeted therapy SEGA associated with tuberous sclerosis	Tablet
	Exjade	deferasirox	Chronic iron overload due to blood transfusions	Dispersible tablet for oral suspension
	Femara	letrozole	Hormone receptor positive early breast cancer in postmenopausal women following surgery (upfront adjuvant therapy) Early breast cancer in post-menopausal women following standard tamoxifen therapy (extended adjuvant therapy) Advanced breast cancer in post-menopausal women (both as first- and second-line therapies)	Tablet
	Gleevec/ Glivec	imatinib mesylate/imatinib	Certain forms of chronic myeloid leukemia Certain forms of gastrointestinal stromal tumors Certain forms of acute lymphoblastic leukemia Dermatofibrosarcoma protuberans Hypereosinophilic syndrome Aggressive systemic mastocytosis Myelodysplastic/myeloproliferative diseases	Tablet
	Proleukin	aldesleukin	Metastatic renal cell carcinoma Metastatic melanoma	Lyophilized powder for IV infusion upon reconstitution and dilution
	Sandostatin LAR & Sandostatin SC	octreotide acetate for injectable suspension & octreotide acetate	Acromegaly Symptom control for certain forms of neuroendocrine tumors	Vial Ampoule/pre-filled syringe
	Tasigna	nilotinib	Certain forms of chronic myeloid leukemia in patients resistant or intolerant to prior treatment including *Gleevec/Glivec* First line CML	Capsule
	Zometa	zoledronic acid	Skeletal-related events from bone metastases (cancer that has spread to the bones) hypercalcemia of malignancy	Vial

[1] Not all indications are available in all countries.

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Therapeutic area	Product	Common name	Indication[1]	Formulation
Neuroscience and Ophthalmics	*Clozaril/ Leponex*	clozapine	Treatment-resistant schizophrenia Prevention and treatment of recurrent suicidal behavior in patients with schizophrenia and psychotic disorders	Tablet
	Comtan	entacapone	Parkinson's disease	Tablet
	Exelon & *Exelon* Patch	rivastigmine tartrate & rivastigmine transdermal system	Alzheimer's disease Dementia associated with Parkinson's disease	Capsule Oral solution Transdermal patch
	Extavia	interferon beta-1b	Relapsing forms of multiple sclerosis	Subcutaneous injection
	Fanapt	iloperidone	Schizophrenia	Tablet
	Focalin & *Focalin XR*	dexmethylphenidate HCl & dexmethylphenidate extended release	Attention deficit hyperactivity disorder	Tablet Capsule
	Gilenya	fingolimod	Relapsing forms of multiple sclerosis	Capsule
	Lucentis	ranibizumab	Wet age-related macular degeneration Visual impairment due to diabetic macular edema	Intravitreal injection
	Ritalin & *Ritalin LA*	methylphenidate HCl & methylphenidate HCl modified release	Attention deficit hyperactivity disorder and narcolepsy Attention deficit hyperactivity disorder	Tablet Capsule
	Stalevo	carbidopa, levodopa and entacapone	Parkinson's disease	Tablet
	Tegretol	carbamazepine	Epilepsy Pain associated with trigeminal neuralgia Acute mania and bipolar affective disorders	Tablet Chewable tablet Oral suspension Suppository
	Trileptal	oxcarbazepine	Epilepsy	Tablet Oral suspension
	Visudyne	verteporfin	Wet age-related macular degeneration Pathological myopia Ocular histoplasmosis	Vial, intravenous infusion activated by non-thermal laser light
	Zaditor/ Zaditen	ketotifen	Allergic conjunctivitis	Eye drops

[1] Not all indications are available in all countries.

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Therapeutic area	Product	Common name	Indication[1]	Formulation
Respiratory	*Foradil*	formoterol	Asthma Chronic obstructive pulmonary disease	Aerolizer (capsules) Aerosol
	Onbrez Breezhaler	indacaterol	Chronic obstructive pulmonary disease	*Onbrez Breezhaler* inhaler (powder in hard capsules for inhalation)
	Tobi	tobramycin	Pseudomonas aeruginosa infection in cystic fibrosis	Inhalation solution
	Xolair	omalizumab	Allergic asthma	Lyophilized powder for reconstitution as subcutaneous injection
Integrated Hospital Care	*Cubicin*	daptomycin	Complicated skin and soft tissue infections (cSSTI) Right-sided endocarditis (RIE) due to Staphylococcus aureus Staphylococcus aureus bacteremia when associated with RIE or cSSTI	Powder for solution, injection or infusion
	Ilaris	canakinumab	Cryopyrin-associated periodic syndrome (CAPS)	Lyophilized powder for reconstitution for subcutaneous injection
	Myfortic	mycophenolic acid/mycophenolate sodium, USP	Prevention of graft rejection following kidney transplantation	Tablet
	Neoral/Sandimmune	cyclosporine, USP Modified	Prevention of rejection following certain organ transplantation Non-transplantation autoimmune conditions such as severe psoriasis and severe rheumatoid arthritis	Capsule Oral solution
	Reclast/ *Aclasta*	zoledronic acid/zoledronic acid 5 mg	Treatment of osteoporosis in postmenopausal women to reduce the incidence of hip, vertebral and non-vertebral fractures, and to increase bone mineral density Prevention of clinical fractures after hip fracture in men and women Treatment of osteoporosis in men Treatment and prevention of glucocorticoid-induced osteoporosis Prevention of postmenopausal osteoporosis Treatment of Paget's disease of the bone	Intravenous infusion
	Simulect	basiliximab	Prevention of acute organ rejection in de novo renal transplantation	Vial for injection or infusion
	Tyzeka/Sebivo	telbivudine	Chronic hepatitis B	Tablet Oral solution
	Zortress/Certican	everolimus	Prevention of organ rejection (heart and kidney)	Tablet Dispersible tablet for oral suspension

[1] Not all indications are available in all countries.

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Therapeutic area	Product	Common name	Indication[1]	Formulation
Other	*Coartem/ Riamet*	artemether and lumefantrine	Plasmodium falciparum malaria or mixed infections that include Plasmodium falciparum Standby emergency malaria treatment	Tablet Dispersible tablet for oral suspension
	Combipatch/ Estalis/Estalis Sequi	estradiol hemihydrate and norethisterone acetate	Treatment of symptoms of estrogen deficiency in postmenopausal women with an intact uterus Prevention of osteoporosis in postmenopausal women with an intact uterus	Transdermal patch
	Elidel	pimecrolimus	Atopic dermatitis (eczema)	Cream
	Estraderm TTS/ Estraderm MX	estradiol hemihydrate	Treatment of signs and symptoms of estrogen deficiency due to menopause Prevention of accelerated postmenopausal bone loss	Transdermal patch
	Estragest TTS Sequidot	estradiol hemihydrate and norethisterone acetate	Treatment of symptoms of estrogen deficiency in postmenopausal women with an intact uterus Prevention of postmenopausal osteoporosis in women with an intact uterus	Transdermal patch
	Emselex	darifenacin	Overactive bladder	Tablet
	Famvir	famciclovir	Acute herpes zoster including ophthalmic herpes zoster and decreased duration of post herpetic neuralgia Acute treatment of first episode and recurrent genital herpes infections, and for the suppression of recurrent genital herpes Treatment of recurrent herpes labialis (cold sores) Indicated in immuno- compromised patients with herpes zoster or herpes simplex infections	Tablet
	Lamisil	terbinafine	Fungal infection of the skin and nails caused by dermatophyte fungi Tinea capitis Fungal infections of the skin for the treatment of tinea corporis, tinea cruris, tinea pedis and yeast infections of the skin caused by the genus Candida (e.g. Candida albicans)	Tablet Cream DermGel Solution Spray
	Miacalcin/ Miacalcic	salmon calcitonin	Osteoporosis Bone pain associated with osteolysis and/or osteopenia Paget's disease Neurodystrophic disorders (synonymous with algodystrophy or Sudeck's disease) Hypercalcemia	Nasal spray Ampoule & multi-dose Vial for injection or infusion

[1] Not all indications are available in all countries.

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Therapeutic area	Product	Common name	Indication[1]	Formulation
	Vivelle Dot/ Estradot	estradiol hemihydrate	Estrogen replacement therapy for the treatment of the symptoms of menopause Prevention of postmenopausal osteoporosis	Transdermal patch
	Voltaren/Cataflam	diclofenac sodium/potassium/resinate/free acid	Inflammatory and degenerative forms of rheumatism Post-traumatic and post-operative pain, inflammation and swelling Painful and/or inflammatory conditions such as migraine, ear, nose and throat, or dysmenorrhoea	Tablet Capsule Oral drop Ampoule for injection Suppository Gel Powder for oral solution Transdermal patch

(1) Not all indications are available in all countries.

Selected Leading Products

Cardiovascular and Metabolism

Diovan (valsartan), together with *Diovan HCT/Co-Diovan* (valsartan and hydrochlorothiazide), is the world's number one selling branded high blood pressure medication (IMS October 2010). *Diovan* is the only agent in its class approved to treat all of the following: high blood pressure (including children 6 to 16 years), high-risk heart attack survivors and patients with heart failure. First launched in 1996, *Diovan* is available in more than 120 countries for treating high blood pressure, in more than 90 countries for heart failure, and in more than 70 countries for heart attack survivors. First launched in 1997, *Diovan HCT/Co-Diovan* is approved in over 100 countries worldwide. In July 2008, the FDA approved *Diovan HCT* for the first-line treatment of hypertension in patients unlikely to achieve blood pressure control on a single agent. In 2009, *Co-Diovan* was approved for treatment of high blood pressure in Japan. In September 2010, all 27 European Union (EU) member states locally approved Diovan for use in children aged 6 to 18 years. We expect that *Diovan* will face generic challenges in 2011 when the patent on its active ingredient, valsartan, expires in the major countries of the EU, with patent expirations in the US and Japan to follow in 2012 and 2013 respectively. See " Intellectual Property" below for further information on the patent status of *Diovan*.

Exforge (valsartan and amlodipine besylate) is a single-pill combination of the angiotensin receptor blocker *Diovan* and the calcium channel blocker amlodipine besylate. First approved for the treatment of high blood pressure in Switzerland in 2006, and in the US and EU in 2007, it is now available in more than 80 countries. In 2008, the FDA approved *Exforge* for the first-line treatment of hypertension in patients likely to need multiple drugs to achieve their blood pressure goals. In January 2010, *Exforge* was approved in Japan and also launched in China. *Exforge HCT* (valsartan, amlodipine besylate and hydrochlorothiazide) is a single pill combining three widely prescribed high blood pressure treatments: ARB (valsartan), CCB (amlodipine) and HCT (hydrochlorothiazide). *Exforge HCT* was approved in the EU and the US in 2009, and is now available in more than 20 countries.

Tekturna/Rasilez (aliskiren) is a treatment for high blood pressure, and the first and only approved direct renin inhibitor. *Tekturna/Rasilez* was approved in the US and EU in 2007, and is now available in more than 80 countries. The product is known as *Tekturna* in the US and *Rasilez* in the rest of the world. There are various *Tekturna/Rasilez* single-pill combination products. The first single-pill combination product, *Tekturna/Rasilez* with hydrochlorothiazide called *Tekturna HCT*

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was approved by the US in 2008 and in the EU in 2009, where it is known as *Rasilez HCT*. Another single-pill combination product, *Tekturna/Rasilez* with valsartan called *Valturna* in the US (and to be called *Rasival* outside of the US) has been approved by the FDA and was launched in the US in 2009. In September 2010, we withdrew our application for EU Marketing Authorization for *Rasival*. The application was withdrawn following a CHMP request to provide additional data satisfying the relevant EU guidelines. We were unable to provide the requested data within the timeframe of the review process. The single-pill combination of *Tekturna/Rasilez* with the calcium channel blocker amlodipine besylate, known as *Tekamlo* in the US (and to be called *Rasilamlo* in the EU) was approved by the FDA in August 2010 and was filed with the European Medicines Agency (EMA) in December 2009. The single-pill triple combination of *Tekturna/Rasilez* with amlodipine besylate and hydrochlorothiazide was approved in December 2010 in the US under the product name *Amturnide*. It was filed with the EMA in May 2010.

Galvus (vildagliptin), an oral treatment for type 2 diabetes, and *Eucreas*, a single-pill combination of vildagliptin and metformin, have shown promising results during the rollout in Europe following approvals in 2007. *Galvus* is currently approved in 75 countries and launched in 43 countries. The product was approved in Japan in January 2010 under the trade name *Equa*. *Eucreas* was the first single-pill combining a DPP-4 inhibitor and another medication to be launched in Europe. *Eucreas* is currently approved in 57 countries and launched in 32 countries, including the countries of the EU, as well as countries in Latin America and Asia.

Oncology

Gleevec/Glivec (imatinib mesylate tablets/imatinib) is a signal transduction inhibitor approved to treat patients with certain forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST). First launched in 2001, *Gleevec/Glivec* is available in more than 110 countries. *Gleevec/Glivec* is indicated for the treatment of newly diagnosed adult and pediatric patients with a form of CML. *Gleevec/Glivec* is also approved in the US, EU and Japan to treat Philadelphia chromosome positive (Ph+) acute lymphoblastic leukemia (ALL), a rapidly progressive form of leukemia; dermatofibrosarcoma protuberans, a rare solid tumor; hypereosinophilic syndrome and myelodysplastic/myeloproliferative diseases; and other rare blood disorders. In the US, *Gleevec/Glivec* is also approved for aggressive systemic mastocytosis. *Gleevec/Glivec* has received approvals as a post-surgery (adjuvant setting) therapy for GIST in more than 57 countries, including the US and EU.

Tasigna (nilotinib) is a signal transduction inhibitor of the tyrosine kinase activity of Bcr-Abl, Kit and the PDGF-receptor. Since 2007, *Tasigna* has gained regulatory approval in more than 85 countries including the US, the EU, Switzerland and Japan, to treat patients with a form of chronic myeloid leukemia (CML) in chronic and/or accelerated phase patients resistant or intolerant to existing treatment including *Gleevec/Glivec*. Results from the global, randomized Phase III trial called ENESTnd (Evaluating Nilotinib Efficacy and Safety in Clinical Trials of Newly Diagnosed Ph+ CML Patients), a head-to-head comparison against *Glivec,* show that *Tasigna* produced faster and deeper responses than *Glivec* in adult patients with newly-diagnosed Ph+ CML. The ENESTnd 24-month follow-up presented at the American Society of Hematology (ASH) confirmed that *Tasigna* continued to surpass *Glivec* in inducing deeper and more durable cytogenetic and molecular response and showed a lower incidence in transformation to accelerated phase and blast crisis. Based on the 12-month ENESTnd data, applications were submitted to health authorities worldwide for first-line CML. *Tasigna* is now approved in the US, EU, Japan, Switzerland and other countries for the treatment of adult patients with a form of newly diagnosed CML. Trials are also underway examining the use of *Tasigna* in patients with metastatic GIST and with c-Kit mutated, advanced melanoma.

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Zometa (zoledronic acid for injection/zoledronic acid 4 mg) is a leading treatment to reduce or delay skeletal-related events (SREs), including pathologic fracture, spinal cord compression, and/or requirement of radiation therapy or surgery to bone in patients with bone metastases (cancer that has spread to the bones) from solid tumors and multiple myeloma. First approved in the US in 2001 for the treatment of hypercalcemia of malignancy (tumor-induced excessive levels of calcium), *Zometa* is approved in more than 100 countries for this indication as well as for the treatment of patients with multiple myeloma and patients with bone metastasis from solid malignancies, including prostate, breast and lung cancer. Zoledronic acid, the active ingredient in *Zometa*, is also available under the trade names *Reclast/Aclasta* for use in non-oncology indications. *Zometa* and *Reclast/Aclasta* may face significant competition from denosumab, a new Amgen product recently approved for the treatment of postmenopausal osteoporosis, and in the US oncology setting for SRE reduction or delay in patients with advanced malignancy involving bone. Denosumab is not approved in the multiple myeloma setting.

Femara (letrozole) is a once-daily oral aromatase inhibitor for the treatment of early stage or advanced breast cancer in postmenopausal women. *Femara* was first launched in 1996 and is currently available in more than 90 countries. *Femara* is approved in the US, EU and other countries in the adjuvant, extended adjuvant and neoadjuvant settings for early stage breast cancer. *Femara* is also approved in the US and other countries as adjuvant therapy for locally advanced breast cancer and for advanced breast cancer following antigen estrogen therapy. *Femara* is approved as neo-adjuvant (pre-operative) therapy for early stage breast cancer in a limited number of countries. In Japan, *Femara* is approved for the treatment of all hormone receptor-positive breast cancer in postmenopausal women. In 2010, the US and EU prescribing information for *Femara* was updated to reflect the results of the BIG 1-98 clinical trial. We expect that *Femara* will face generic challenges in 2011 when the patent on its active ingredient, letrozole, expires in the US and major countries in Europe. See " Intellectual Property" below for further information on the patent status of *Femara*.

Sandostatin SC/Sandostatin LAR (octreotide acetate/octreotide acetate for injectable suspension) is indicated for the treatment of patients with acromegaly, a chronic disease caused by over-secretion of pituitary growth hormone in adults. *Sandostatin* is also indicated for the treatment of patients with certain symptoms associated with carcinoid tumors and other types of gastrointestinal and neuroendocrine pancreatic tumors. *Sandostatin* was first launched in 1988 and is approved in more than 85 countries. *Sandostatin SC* faces worldwide generic competition. Formulation patents covering *Sandostatin LAR* expired in July 2010 in all countries except the US, where the expiration of formulation patents begins from the end of 2014. The expiration of the last formulation patent in the US will be in January 2017. There are currently no generic versions of *Sandostatin LAR* approved in major markets.

Exjade (deferasirox) is an oral iron chelator approved for the treatment of chronic iron overload due to blood transfusions in patients over two years of age who have a wide range of underlying anemias. Patients with congenital and acquired chronic anemia, such as thalassemia, sickle cell disease and myelodysplastic syndromes require transfusions, which puts them at risk of iron overload. *Exjade* was first approved in 2005 and is now approved in more than 100 countries including the US, EU and Japan. In June 2010, *Exjade* received regulatory approval in China.

Afinitor (everolimus) is an oral inhibitor of the mTOR pathway. It was launched in the US and the EU in 2009 following regulatory approval as the first therapy for patients with advanced renal cell carcinoma (advanced kidney cancer) after failure of treatment with sunitinib or sorafenib (in the US) or after failure of treatment with VEGF-targeted therapy (in the EU). Japanese approval was received in 2010. In October 2010, *Afinitor* received accelerated approval in the US for patients with subependymal giant cell astrocytomas (SEGA) associated with tuberous sclerosis (TS) who require therapeutic intervention, but are not candidates for curative surgical reaction. Everolimus

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is under review in the EU for indications in SEGA under the trade name *Votubia*. *Afinitor* is also in development or being studied in other potential oncology indications. See " Compounds in Development". Everolimus, the active ingredient in *Afinitor*, is also available under the trade names *Zortress/Certican* for use in transplantation, and is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Neuroscience and Ophthalmics

Lucentis (ranibizumab) is a recombinant humanized high affinity antibody fragment that binds to vascular endothelial growth factors. *Lucentis* is the first approved drug for wet age-related macular degeneration that has been shown to improve vision and vision-related quality of life. *Lucentis* was approved in the EU in 2007. It is now approved in more than 85 countries. In January 2011, the European Commission granted Novartis a new indication for *Lucentis* for the treatment of visual impairment due to diabetic macular edema, and since August 2010 it has been filed for this same indication elsewhere around the world, outside of the US. In October 2010, Novartis also filed an application to treat people within the EU with *Lucentis* for visual impairment due to macular edema secondary to retinal vein occlusion. *Lucentis* is developed in collaboration with Genentech, which holds the rights to market the product in the US.

Exelon (rivastigmine tartrate) and *Exelon* Patch (rivastigmine transdermal system): *Exelon* capsules have been available since 1997 to treat mild to moderate Alzheimer's disease (AD) in more than 70 countries. In 2006, *Exelon* became the only cholinesterase inhibitor to be approved for mild to moderate Parkinson's disease dementia in addition to AD in both the US and EU. *Exelon* Patch was approved in 2007 in the US and EU and has been launched in more than 60 countries. The once-daily *Exelon* Patch has shown comparable efficacy to the highest recommended doses of *Exelon* capsules, with significant improvement in cognition and overall functioning compared to placebo. *Exelon* capsules are now subject to generic competition in several markets, including the US.

Extavia (interferon beta-1b) is an injectable disease modifying therapy for relapsing forms of multiple sclerosis (MS). It is the Novartis brand of interferon beta-1b, a product also marketed by Bayer Healthcare Pharmaceuticals Inc. under the brand name Betaseron® in the US and by Bayer Schering Pharma under the brand name Betaferon® in the EU. Bayer Schering supplies the product to Novartis under an agreement reached in 2007. *Extavia* was first approved in the EU in 2008 and since 2009 has been launched in more than 20 markets, including the US.

Gilenya (fingolimod) is the first in a new class of multiple sclerosis (MS) therapy called sphingosine 1- phosphate receptor modulators. *Gilenya* is the first approved oral disease-modifying treatment for MS in the US, a major advance for people with relapsing MS, the most common forms of the disease. *Gilenya* showed superior efficacy by reducing relapses by 52% at one year ($p < .001$) compared to interferon beta-1a IM, a current standard of care. A two-year, placebo-controlled study showed that *Gilenya* significantly reduced the risk of disability progression. *Gilenya* has a well-studied safety and tolerability profile with over 2,600 MS clinical trial patients included in the FDA regulatory review, with some patients in their seventh year of treatment. *Gilenya* was approved as a first line treatment for relapsing or relapsing-remitting multiple sclerosis in the US, Australia, Switzerland, Russia and the United Arab Emirates. In January 2011, *Gilenya* received a positive opinion from the EU's CHMP as a disease modifying therapy in patients with highly active relapsing-remitting multiple sclerosis (RRMS) despite treatment with beta interferon, or in patients with rapidly evolving severe RRMS. *Gilenya* is currently under regulatory review with health authorities worldwide, including Canada, Turkey and Brazil. *Gilenya* is licensed from Mitsubishi Tanabe Pharma Corporation.

Comtan and *Stalevo* (entacapone and carbidopa, levodopa and entacapone) are indicated for the treatment of Parkinson's disease. *Stalevo* (carbidopa, levodopa and entacapone) is indicated for

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certain Parkinson's disease patients who experience end-of-dose motor (or movement) fluctuations, known as "wearing off". *Stalevo* was approved in the US and EU in 2003, and is available from Novartis in more than 50 countries. *Comtan* (entacapone) is also indicated for the treatment of Parkinson's disease patients who experience end-of-dose wearing off and is marketed in approximately 50 countries under a licensing agreement with the Orion Corporation. *Stalevo* and *Comtan* were developed and are manufactured by Orion, and are marketed by Novartis and Orion in their respective territories.

Fanapt (iloperidone) is a dopamine type 2 (D2) and serotonin type 2 (5-HT2A) receptor antagonist antipsychotic agent. *Fanapt* is indicated in the US for the acute treatment of schizophrenia in adults and was launched in January 2010. *Fanapt* belongs to the class of medication for schizophrenia known as atypical antipsychotics.

Respiratory

Xolair (omalizumab) is the first humanized monoclonal antibody approved for the treatment of moderate to severe allergic asthma in the US in adolescents (aged 12 and above) and adults. It is approved for severe allergic asthma in the EU in children (aged six and above), adolescents, and adults. *Xolair* is approved in more than 80 countries, including the US in 2003 and the EU in 2005. *Xolair* is being jointly developed with Genentech and is co-promoted in the US by Novartis and Genentech.

Onbrez Breezhaler (QAB149, indacaterol) is a once-daily beta2-agonist delivered in a single dose dry powder inhaler that offers sustained 24-hour bronchodilation with a fast onset of action for the treatment of chronic obstructive pulmonary disease (COPD). In November 2010, Novartis announced results of the blinded Phase III INTENSITY study showing that *Onbrez Breezhaler* 150 mcg is as effective as tiotropium in improving lung function in patients with COPD, while providing greater clinical benefits in terms of reduced breathlessness, lower use of rescue medication and improved health status. While the trial met these secondary endpoints relating to key patient outcomes, it did not meet the secondary endpoint of superiority to tiotropium in terms of lung function. *Onbrez Breezhaler* was approved in the EU in December 2009 for two dose strengths, 150 mcg and 300 mcg, for maintenance bronchodilator treatment in adult COPD patients. Seventeen regulatory approvals have been granted and are valid in over 40 countries, including the EU, Switzerland, and parts of South East Asia and Latin America. See " Compounds in Development" below for details of US registration.

Integrated Hospital Care

Reclast/Aclasta (zoledronic acid 5 mg) is the first and only once-yearly bisphosphonate infusion for the treatment of different forms of osteoporosis, and for the treatment of Paget's disease of the bone in men and women. Sold as *Reclast* in the US and *Aclasta* in the rest of the world, the product is approved in more than 90 countries including the US, EU and Canada, and is the only bisphosphonate approved to reduce the incidence of fractures at all three key fracture sites (hip, spine and non-spine) in the treatment of postmenopausal osteoporosis. The *Reclast/Aclasta* label was expanded in the EU and US to include the reduction in the incidence of clinical fractures after a low trauma hip fracture. The EU has also approved *Aclasta* for the treatment of osteoporosis in men at increased risk of fracture and for the treatment of osteoporosis associated with long-term systemic glucocorticoid therapy in post-menopausal women and in men at increased risk of fracture. *Reclast* is also approved in the US as a treatment to increase bone mass in men with osteoporosis, the prevention and treatment of glucocorticoid- induced osteoporosis in men and women, as well as for the prevention of osteoporosis in postmenopausal women. Zoledronic acid, the active ingredient in *Reclast/Aclasta*, is also approved in a number of countries in a different dosage under the trade name *Zometa* for certain oncology indications.

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Zortress/Certican (everolimus) is an mTOR inhibitor indicated for the treatment of transplant rejection in combination with cyclosporine and corticosteroids. It has been sold as *Zortress* in the US since April 2010 and as *Certican* in the rest of the world since 2003. It is approved in the US for the prophylaxis of organ rejection in adult patients at low to moderate immunological risk receiving an allogenic renal transplant, and launched in more than 85 countries for the prophylaxis of organ rejection in adult patients at low to moderate immunological risk receiving an allogenic renal or cardiac transplant. Everolimus, the active ingredient in *Zortress/Certican*, is also available under the trade name *Afinitor* for the treatment of patients with advanced renal cell carcinoma after failure with certain treatments, and is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Ilaris (canakinumab) is a fully human monoclonal antibody that selectively binds and neutralizes interleukin-1β (IL-1β), a pro-inflammatory cytokine. Since 2009, *Ilaris* has been approved in over 40 countries for the treatment of children aged four years and older and adults suffering from cryopyrin associated periodic syndrome (CAPS), a group of rare disorders characterized by chronic recurrent fever, urticaria, occasional arthritis, deafness, and potentially life threatening amyloidosis.

Neoral (cyclosporine, USP Modified) is an immunosuppressant to prevent organ rejection following a kidney, liver, heart or lung transplant. This micro-emulsion formulation of cyclosporine is also indicated for treating selected autoimmune disorders such as psoriasis and rheumatoid arthritis. First launched in 1995, *Neoral* is marketed in approximately 100 countries. This product is subject to generic competition.

Myfortic (enteric-coated formulation of mycophenolate sodium) is approved in more than 90 countries for the prevention of acute rejection of kidney allografts, and is indicated in combination with cyclosporine and corticosteroids. *Myfortic* was first approved in the US in 2004 and in the EU in 2003.

Other Pharmaceuticals Products

Voltaren/Cataflam (diclofenac sodium/potassium/resinate/free acid) is a leading non-steroidal anti-inflammatory drug (NSAID) for the relief of symptoms in rheumatic diseases such as rheumatoid arthritis and osteoarthritis, and for various other inflammatory and pain conditions. *Voltaren/Cataflam* was first launched in 1973 and is available in more than 140 countries. This product, which is subject to generic competition, is marketed by the Pharmaceuticals Division in a wide variety of dosage forms, including tablets, drops, suppositories, ampoules and topical therapy. In addition, in various countries, our Consumer Health Division's OTC Business Unit markets low-dose oral forms and the topical therapy of *Voltaren* as over-the-counter products.

Lescol/Lescol XL (fluvastatin sodium) are lipid-lowering drugs used to reduce cholesterol. *Lescol/Lescol XL* are indicated as an adjunct to diet for the treatment of hypercholesterolemia and mixed dyslipidemia in adults, and to reduce cholesterol in children over nine years and adolescents with heterozygous familial hypercholestrolemia. In addition, for patients with coronary artery disease, *Lescol/Lescol XL* are indicated for secondary prevention of major adverse cardiac events and to slow the progression of coronary atherosclerosis. *Lescol* was first launched in 1994 and *Lescol XL* in 2000. Both are available in more than 90 countries.

Ritalin, Ritalin LA, Focalin and *Focalin XR* (methylphenidate HCl, methylphenidate HCl extended release, dexmethylphenidate HCl and dexmethylphenidate HCl extended release) are indicated for the treatment of attention deficit hyperactivity disorder (ADHD) in children and *Focalin XR* is additionally indicated for adults. *Ritalin* and *Ritalin LA* are also indicated for pediatric and adult narcolepsy. *Ritalin* was first marketed during the 1950s and is available in over 50 countries. *Ritalin LA* is available in over 20 countries. *Focalin* comprises the active d-isomer of

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methylphenidate and therefore requires half the dose of *Ritalin*. *Focalin XR* is now approved in Switzerland. *Focalin* and *Focalin XR* is available in the US. Immediate-release *Focalin* is subject to generic competition.

Compounds in Development

The traditional model of development comprises three phases, which are defined as follows:

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

Phase II: Clinical studies that are performed on patients with the targeted disease, to continue the Phase I safety assessment in a larger group, to assess the efficacy of the drug in the patient population, and to determine the appropriate doses for further testing.

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

Novartis, while essentially using the same model as a platform, has tailored the process to be simpler, more flexible and efficient. Our development paradigm consists of two parts: Exploratory and Confirmatory development. Exploratory development consists of clinical "proof of concept" (PoC) studies which are small clinical trials (typically 5-15 patients) that combine elements of traditional Phase I/II testing. These customized trials are designed to give early insights into issues such as safety, efficacy and toxicity for a drug in a given indication. Once a positive proof of concept has been established, the drug moves to the Confirmatory development stage. Confirmatory development has elements of traditional Phase II/III testing and includes trials aimed at confirming the safety and efficacy of the drug in the given indication leading up to submission of a dossier to health authorities for approval. Like traditional Phase III testing, this stage can also include trials which compare the drug to the current standard of care for the disease, in order to evaluate the drug's overall risk/benefit profile.

The following table and paragraph summaries provide an overview of the key projects currently in the Confirmatory development stage within our Pharmaceuticals Division, including projects seeking to develop potential uses of new molecular entities, as well as potential additional indications or new formulations for already marketed products.

Selected Development Projects

Project/Product	**Common name**	**Mechanism of action**	**Potential indication/ Disease area**	**Therapeutic area**	**Formulation/ Route of administration**	**Planned filing dates/Current phase**
ACZ885	canakinumab	Anti IL-1β monoclonal antibody	Gouty arthritis	Integrated Hospital Care	Subcutaneous injection	EU (registration) US (2011/III)
			Systemic onset juvenile idiopathic arthritis	Integrated Hospital Care		2011/III
			Type 2 diabetes mellitus	Cardiovascular and Metabolism		≥ 2015/II
			Secondary prevention of cardiovascular events	Cardiovascular and Metabolism		≥ 2015/II
AEB071	sotrastaurin	Protein kinase C inhibitor	Prevention of organ rejection	Integrated Hospital Care	Oral	2014/II

Psoriasis	Integrated Hospital Care	≥ 2015/II

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Project/Product	Common name	Mechanism of action	Potential indication/ Disease area	Therapeutic area	Formulation/ Route of administration	Planned filing dates/Current phase
AFQ056	TBD	Metabotropic glutamate receptor 5 antagonist	Fragile X syndrome	Neuroscience And Ophthalmics	Oral	2012/II
			L-dopa induced dyskinesia in Parkinson's disease			2013/II
AGO178	agomelatine	MT1 and MT2 agonist and 5-HT2c antagonist	Major depressive disorder	Neuroscience And Ophthalmics	Oral dispersible	2012/III
AIN457	secukinumab	Anti IL-17 monoclonal antibody	Arthritidies (Rheumatoid arthritis, Ankylosing Spondylitis, Psoriatic Arthritis)	Integrated Hospital Care	Lyophilized powder in vial; Intravenous infusion, subcutaneous injection	2013/II
			Psoriasis			2013/II
			Non-infectious uveitis	Neuroscience And Ophthalmics		2013/III
ATI355	TBD	Anti NOGO-A mAb	Spinal cord injury	Neuroscience And Ophthalmics	Intrathecal spinal infusion	≥ 2015/I
BAF312	TBD	Sphingosine-1-phosphate (S1P) receptor modulator	Multiple sclerosis	Neuroscience And Ophthalmics	Tablet	≥ 2015/II
BEZ235	TBD	P13K/mTOR inhibitor	Solid tumors	Oncology	Oral	2014/I
BGS649	TBD	Aromatase inhibitor	Refractory endometriosis	Integrated Hospital Care	Tablet	2014/II
BKM120	TBD	P13K inhibitor	Solid tumors	Oncology	Oral	2014/I
CAD106	TBD	Beta-amyloid-protein immunotherapy	Alzheimer's disease	Neuroscience And Ophthalmics	Subcutaneous, intramuscular injection	≥ 2015/II
DEB025	alisporivir	Cyclophilin inhibitor	Chronic hepatitis C	Integrated Hospital Care	Oral	2013/II
Elidel	pimecrolimus	Topical calcineurin inhibitor	Atopic dermatitis in infants	Other	Cream	2011/III
Exjade	deferasirox	Iron chelator	Non-transfusion dependent thalassemia	Oncology	Oral	2011/II
Gilenya	fingolimod				Tablet	

		Sphingosine-1-phosphate (S1P) receptor modulator	Multiple sclerosis	Neuroscience And Ophthalmics		US (approved), EU (registration)
HCD122	TBD	Anti-CD40 monoclonal antibody	Hematological tumors	Oncology	Intravenous	≥ 2015/I
INC424	ruxolitinib	Janus kinase (JAK) inhibitor	Myelofibrosis	Oncology	Oral	2011/III
			Polycythemia vera			2014/III
Joicela	lumiracoxib	Cyclooxygenase type 2 inhibitor	Osteoarthritis	Integrated Hospital Care	Oral	EU (registration)

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Project/Product	**Common name**	**Mechanism of action**	**Potential indication/ Disease area**	**Therapeutic area**	**Formulation/ Route of administration**	**Planned filing dates/Current phase**
LBH589	panobinostat	Histone deactelylase inhibitor	Hodgkin's lymphoma	Oncology	Oral	US (registration), EU (2011/III)
			Multiple myeloma			2013/III
			Hematological cancers			≥ 2015/II
LCQ908	TBD	Diacylglycerol acyl transferase-1 inhibitor	Metabolic diseases	Cardiovascular and Metabolism	Tablet	2014/II
LCZ696	TBD	Angiotensin receptor-Neprilysin Inhibitor	Heart failure	Cardiovascular and Metabolism	Oral	2014/III
			Hypertension			2014/II
LDE225	TBD	Smoothened receptor/ hedgehog signaling inhibitors	Gorlin's syndrome	Integrated Hospital Care	Cream	2012/II
		Oral smoothed inhibitor	Solid tumors	Oncology	Oral	2014/I
Lucentis	ranibizumab	Anti-VEGF monoclonal antibody fragment	Retinal vein occlusion	Neuroscience And Ophthalmics	Intravitreal injection	EU (registration)
			Pathological myopia			2012/III
NIC002	TBD	Nicotine Qbeta therapeutic vaccine	Smoking cessation	Respiratory	Injection	≥ 2015/II
NVA237	glycopyrronium bromide	Long-acting muscarinic antagonist	Chronic obstructive pulmonary disease	Respiratory	Inhalation	2011/III
PKC412	midostaurin	Signal transduction inhibitor	Aggressive systemic mastocytosis	Oncology	Oral	2013/II
			Acute myeloid leukemia			2014/III
PRT128	elinogrel	P2Y12 inhibitor	Acute coronary syndrome, chronic coronary heart disease	Cardiovascular and Metabolism	Intravenous infusion, oral	≥ 2015/II
PTK796	omadacycline					2012/III

		Inhibition of bacterial protein synthesis	Acute bacterial skin and skin structure infections, community-acquired bacterial pneumonia	Integrated Hospital Care	Intravenous infusion, oral	
QAB149	indacaterol	Long-acting beta-2 agonist	Chronic obstructive pulmonary disease	Respiratory	Inhalation	EU (approved) US (registration)
QMF149	indacaterol and mometasone furoate	Long-acting beta-2 agonist and inhaled corticosteroid	Chronic obstructive pulmonary disease	Respiratory	Inhalation	2014/II
			Asthma			2014/II
QTI571 (*Glivec*)	imatinib mesylate	Protein tyrosine kinase inhibitor	Pulmonary arterial hypertension	Respiratory	Oral	2011/III
QVA149	indacaterol and glycopyrronium bromide	Long-acting beta-2 agonist and long-acting muscarinic antagonist	Chronic obstructive pulmonary disease	Respiratory	Inhalation	2012/III

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Project/Product	**Common name**	**Mechanism of action**	**Potential indication/ Disease area**	**Therapeutic area**	**Formulation/ Route of administration**	**Planned filing dates/Current phase**
RAD001 (*Afinitor)*	everolimus	mTOR inhibitor	Tuberous sclerosis complex subependymal giant cell astrocytomas	Oncology	Tablet	US (approved) EU (registration)
			Neuroendocrine tumors			US, EU (registration)
			Tuberous sclerosis complex Angiomyolipoma			2011/III
			Breast cancer, estrogen receptor positive			2012/III
			Advanced gastric cancer			2012/III
			Breast cancer Her2-over-expressing, 1st line			2013/III
			Breast Her2-over-expressing 2nd/3rd line			2013/III
			Hepatocellular cancer			2013/III
			Diffuse large B-cell lymphoma			2015/III
RLX030	TBD	Vascular modulator	Acute heart failure	Cardiovascular and Metabolism	Intravenous infusion	2013/III
SMC021	salmon calcitonin	Regulation of calcium homeostasis and inhibition of osteoclast activity	Osteoporosis	Integrated Hospital Care	Oral	2011/III
		Protects articular cartilage and strengthens subchondral bone	Osteoarthritis			2011/III
SOM230	pasireotide	Somatostatin analogue	Cushing's disease	Oncology	Subcutaneous injection	EU (registration), US (2011/III)
			Acromegaly		Intramuscular injection (monthly depot)	2011/III
			Refractory/resistant carcinoid syndrome		Intramuscular injection (monthly depot)	2012/III
Tasigna	nilotinib	Signal transduction inhibitor	metastatic melanoma with c-KIT mutation	Oncology	Capsule	2012/III

			First line metastatic gastrointestinal stromal tumor			2014/III
TBM100	tobramycin inhalation powder	Aminoglycoside antibiotic	Pseudomonas aeruginosa infection in cystic fibrosis patients	Respiratory	Dry powder inhalation	EU (registration) US (2011/III)
Tekturna ALTITUDE	aliskiren	Direct renin inhibitor	Renal and cardiovascular events in type 2 diabetes	Cardiovascular and Metabolism	Tablet	2012/III

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Project/Product	Common name	Mechanism of action	Potential indication/ Disease area	Therapeutic area	Formulation/ Route of administration	Planned filing dates/Current phase
Tekturna ATMOSPHERE	aliskiren	Direct renin inhibitor	Chronic Heart failure	Cardiovascular and Metabolism	Tablet	2013/III
Tekturna/Rasilez single-pill combination	aliskiren and amlodipine besylate	Direct renin inhibitor and calcium channel blocker	Hypertension	Cardiovascular and Metabolism	Tablet	US (approved) EU (registration)
Tekturna/Rasilez single-pill combination	aliskiren, amlodipine besylate and hydrochlorothiazide	Direct renin inhibitor, calcium channel blocker and diuretic	Hypertension	Cardiovascular and Metabolism	Tablet	US (approved) EU (registration)
TKI258	dovitinib lactate	VEGFR1-3, FGFR 1-3, PDGFR angiogenesis inhibitor	Solid tumors	Oncology	Oral	2013/II
Xolair	omalizumab	Anti-IgE monoclonal antibody	Chronic idiopathic urticaria	Respiratory	Lyophilized powder for reconstitution as subcutaneous injection	2013/II
Zortress/Certican	everolimus	mTOR inhibitor	Prevention of organ rejection liver	Integrated Hospital Care	Oral	2011/III

Key Compounds in Development (select products in Phases II, III and Registration)

ACZ885 (canakinumab) was filed in the EU in December 2010 for the treatment of acute attack in gouty arthritis and is planned to be filed in the US early in 2011. The Phase III program in gouty arthritis followed a Phase II program that showed superior pain relief and a much reduced risk of flares compared to an injectable corticosteroid. Phase III trials are ongoing for the treatment of systemic onset juvenile idiopathic arthritis. ACZ885 is also being investigated in Phase II for the treatment of type 1 and type 2 diabetes. A Phase III program in secondary prevention of cardiovascular events is also planned to be initiated in 2011.

AEB071 (sotrastaurin) is a low molecular weight, selective inhibitor of protein kinase-C (PKC). Inhibition of PKC reduces T-cell activation through a novel calcineurin-independent pathway. The molecule is in Phase II clinical development for the treatment of autoimmune indications (including psoriasis) and for the prevention of solid organ allograft rejection (kidney and liver transplantation).

AFQ056 is a metabotropic glutamate receptor 5 (mGluR5) antagonist in Phase II development for the treatment of Parkinson's disease levodopa-induced dyskinesia. No therapy has previously been approved for this condition, which represents a complication after dopamine-replacement therapy in Parkinson's patients and which is characterized by a variety of hyperkinetic movements. A phase II study in adult patients with Fragile X syndrome was initiated in the fourth quarter of 2010.

AGO178 (agomelatine) is an MT1/MT2 receptor agonist and 5-HT2c antagonist for the treatment of major depressive disorder. It has a novel, synergistic mechanism of action. Three Phase III trials have recently been completed in the US. Data from these trials confirmed the known efficacy and safety profile of the drug. An oral dispersible formulation of AGO178 will now be studied in additional phase III trials to further explore its risk/benefit and pharmacokinetic profile. Novartis licensed from Servier the exclusive rights to develop and market the compound in the US and several other countries.

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AIN457 (secukinumab) is a human monoclonal antibody neutralizing interleukin-17A, a key pro-inflammatory cytokine expressed by TH17 cells. The compound is in Phase III development in uveitis and in Phase II development in psoriasis and arthritidies (rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis), where initial studies suggested that AIN457 provides a new mechanism of action for the treatment of immune-mediated diseases. The Phase III study examining AIN457 for non-infectious uveitis in patients with Behcet's disease did not meet its primary endpoint and the data do not support submission of AIN457 for this indication.

BAF312 is an oral, second-generation sphingosine 1-phosphate receptor modulator in Phase II development for relapsing-remitting multiple sclerosis. BAF312 binds selectively to the sphingosine 1-phosphate receptor subtypes 1 and 5, and has a relatively short half life.

DEB025 (alisporivir) is a cyclophilin inhibitor for the treatment of Hepatitis C virus infection (HCV). DEB025 was in-licensed from Debiopharma in early 2010. A Phase IIb study in HCV genotype 1 treatment-naïve patients was completed in 2010 and the results of sustained viral response at 24 weeks were presented to health authorities during the fourth quarter. The FDA and EMA supported a Phase III program for DEB025, which is planned to start in early 2011. In 2010, we also initiated a clinical trial with DEB025 in HCV G1 treatment-experienced patients, and a clinical trial with a novel study design in HCV G2/3 patients where interferon-free/interferon-sparing regimens are being investigated.

INC424 is a Janus kinase (JAK) inhibitor. This oral targeted therapy is now in Phase III clinical trials for the treatment of myelofibrosis, a life-threatening neoplastic condition with no effective medical treatment that is characterized by varying degrees of bone marrow failure, splenomegaly (enlarged spleen) and debilitating symptoms. Novartis has licensed the rights to INC424 from Incyte for development and potential commercialization outside the US. Two Phase III clinical trials, COMFORT-1 and COMFORT-2 have been completed. In December, first interpretable results of COMFORT-1 showed the trial met its primary and secondary endpoints. Results from COMFORT-2 are expected in the first half of 2011. Long-term data regarding INC424 was published in September and demonstrated durable clinical, functional and symptomatic responses with acceptable hematological safety in patients with myelofibrosis. In October, the first US patient was dosed in the Phase III RESPONSE trial comparing INC424 with best available treatment in Polycythemia Vera. This trial is managed by Incyte in the US and by Novartis in the rest of the world. First patients outside the US are expected to be dosed in early 2011.

Joicela (lumiracoxib) is an oral COX-2 inhibitor for osteoarthritis, which Novartis formerly marketed under the brand name *Prexige*. Based on requests from several worldwide health authorities, most marketing authorizations for lumiracoxib were withdrawn due to concerns related to its post-marketing liver safety profile. A specific genetic biomarker has recently been identified which predicts the risk of severe liver injury in patients. In 2009, Novartis submitted a new marketing authorization application in the EU for lumiracoxib (100 mg once daily) under the brand name *Joicela* for symptomatic relief in the treatment of osteoarthritis of the knee and hip in patients who are non-carriers of this genetic biomarker. Similar recommendations related to pre-treatment genetic testing are being implemented wherever the product remains commercially available for osteoarthritis.

LBH589 (panobinostat) is a highly potent pan deacetylase inhibitor targeting the epigenetic regulation of multiple oncogenic pathways, with development focused on hematological disease. In Hodgkin's lymphoma, final analysis of a pivotal Phase II study in relapsed/refractory patients was presented at ASH and LBH589 was filed in Hodgkin's lymphoma in the US based on the results from this study. Regulatory submissions in Hodgkin's lymphoma are also planned worldwide. A Phase III trial in patients in complete response after an autologous stem cell transplantation for Hodgkin's lymphoma (PATH) was started in June 2010, while a Phase III trial for multiple

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myeloma began in December 2009 (PANORAMA-1). We anticipate filing LBH589 in multiple myeloma in 2013.

LCQ908 is a diacylglycerol acyltransferase-1 (DGAT-1) inhibitor. DGAT-1 catalyzes the final committed step in triglyceride synthesis and is believed to play a key role in whole body energy homeostasis. Inhibition of DGAT-1 represents a novel approach to treat metabolic disease and LCQ908 is currently in Phase II development for the treatment of diabetes and other metabolic disorders.

LCZ696 is a first-in-class angiotensin receptor neprilysin inhibitor (ARNI), a dual-acting compound that delivers concomitant inhibition of neprilysin (NEPI) and blockage of the angiotensin type 1 (AT1) receptor (ARB). The compound entered Phase III development at the end of 2009 for the treatment of heart failure, an indication in which ACE inhibitors are the current standard of care.

Lucentis (ranibizumab) was approved in the EU in January 2011 for the treatment of visual impairment secondary to diabetic macular edema. A file for the retinal vein occlusion indication was submitted in the EU in October 2010. A Phase III program for the Pathologic myopia indication was initiated with first patient visit in October 2010.

NVA237 (glycopyrronium bromide), a long-acting muscarinic antagonist (LAMA) providing sustained bronchodilation, is being developed as a once-daily treatment for COPD in a single-dose dry-powder inhaler. Phase II trials have concluded successfully, indicating that NVA237 has a comparable efficacy profile compared to tiotropium, the only LAMA presently on the market, with the potential for improved tolerability and a faster onset of action. A Phase III study commenced in 2009 and first submissions are planned in 2011.

PKC412 (midostaurin) is an oral, multi-targeted, kinase inhibitor in Phase III development for treatment of patients with acute myeloid leukemia (AML) and in Phase II development for aggressive systemic mastocytosis (ASM). Filing is expected for ASM with Phase II data in 2013 and for an indication in FLT3-mutated AML with Phase III data by 2014.

PRT128 (elinogrel), a P2Y12 inhibitor, is a direct-acting, reversible antiplatelet agent that is being developed with both an oral and an intravenous route for administration for the treatment of patients with chronic coronary heart disease and acute coronary syndrome to reduce the risk of recurrent cardiovascular events. The results of the INNOVATE-PCI Phase II study were presented at the European Society of Cardiology congress in August 2010 and PRT128 is expected to enter Phase III development in 2011.

PTK796 (omadacycline) is an antibiotic in-licensed from Paratek Pharmaceuticals Inc. The compound is an aminomethylcycline, derived from tetracycline, which is not affected by the common mechanisms of tetracycline resistance and has demonstrated in vitro activity against resistant bacterial pathogens that most commonly cause complicated skin and skin structure infections (Staphylococcus aureus) and community acquired pneumonia (Streptococcus pneumoniae). The antibiotic is also active against Haemophilus influenzae, atypical pathogens (such as Legionella pneumophila), and many anaerobes. PTK796 is currently entering Phase III development as an intravenous infusion with oral tablet follow-on to treat complicated skin and skin structure infections. Clinical trials are planned in a number of other potential indications, including community acquired pneumonia, and diabetic foot infections, caused by highly resistant bacteria such as methicillin-resistant Staphylococcus aureus and multi-drug resistant Streptococcus pneumoniae. Novartis has gained exclusive worldwide rights to market PTK796.

QAB149 (indacaterol) has been submitted for regulatory consideration in Japan, China and a number of other countries to treat chronic obstructive pulmonary disease (COPD). In the US, following a Complete Response Letter received from the FDA in October 2009, Novartis has

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completed additional studies to further characterize the dosing regimen for indacaterol. Incremental benefits have been observed with indacaterol in escalating doses from 75 mcg up to 300 mcg, with higher doses showing increasing benefit for patients, particularly those with more severe cases. Following an FDA request to explore the lower part of the dose response curve, data supporting the 75 mcg and 150 mcg doses were submitted in the US at the end of September 2010. The application for US approval (under the brand-name *Arcapta Neohaler*) is due to be reviewed by an FDA Advisory Committee in March 2011.

QMF149 is a once-daily fixed dose combination of the long-acting beta2-agonist QAB149 and the Merck (formerly Schering-Plough) inhaled corticosteroid mometasone delivered in a single-dose dry-powder inhaler. Phase II development for asthma and chronic obstructive pulmonary disease is currently ongoing. Filing in the EU is expected in 2014. Activities directly related to US development will not be initiated.

QVA149 is a once-daily fixed dose combination of the long-acting beta2-agonist QAB149 and the long-acting muscarinic antagonist NVA237 (glycopyrronium bromide) which is being investigated for the treatment of chronic obstructive pulmonary disease, in a single-dose dry-powder inhaler. Phase II studies have been successfully completed and results demonstrated that fixed dose combination QVA149 provided superior bronchodilation compared to QAB149 or placebo, which was sustained over 24 hours. The compound had a fast onset of action and was well tolerated with a good safety profile. Phase III development commenced in 2010 and first submission is planned in 2012.

QTI571 (*Glivec*, imatinib mesylate tablets/imatinib), an inhibitor of the tyrosine kinase activity, is currently in development for pulmonary arterial hypertension (PAH). PAH is a rare, progressive, proliferative disease with high morbidity and mortality. A Phase III program in severe PAH patients started in 2009 and first regulatory submission is planned for 2011.

RAD001 (*Afinitor*, everolimus) is an oral inhibitor of the mTOR pathway. Phase III studies are underway in patients with breast cancer, lymphoma, gastric cancer and tuberous sclerosis (TS). Everolimus is under review in the EU for patients with subependymal giant cell astrocytomas (SEGA) associated with TS, based on 28-patient Phase II data that showed meaningful reduction in SEGA volume. It was approved for this indication in the US in October 2010. Also, a Phase III study has completed and is underway to explore the clinical benefits of everolimus for patients with SEGA associated with TS. Regulatory submissions have been completed in the US, EU and Japan in advanced neuroendocrine tumors (NET). RADIANT-3 (RAD001 In Advanced Neuroendocrine Tumors), a Phase III study in pancreatic NET met its primary endpoint of progression-free survival (PFS). RADIANT-2 did not meet its primary endpoint of PFS. Results showed that everolimus plus octreotide LAR extended the median time without tumor growth when compared to placebo plus octreotide LAR. In addition, results from a randomized Phase II study showed the addition of everolimus to the hormonal therapy tamoxifen in patients with advanced metastatic breast cancer delayed disease progression compared to tamoxifen alone.

RLX030 is a recombinant form of human relaxin-2. The molecule was obtained upon the acquisition of the US biotech Corthera Inc. in February 2010. It is being developed for patients hospitalized for acute heart failure. The Phase II data in this population indicated rapid and sustained symptom relief along with an outcome benefit, following a continuous intravenous infusion, on top of standard of care. The ongoing Phase III development program will test the short- and long-term efficacy and safety.

SOM230 (pasireotide) is a somatostatin analogue in development for patients with Cushing's disease, acromegaly and refractory/resistant carcinoid syndrome. Data from a pivotal study in Cushing's disease showing significant reduction of cortisol secretions are the basis for regulatory submissions of SOM230 in subcutaneous formulation. Data from a Phase II study suggest

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reduction of growth hormone in acromegaly patients, and achievement of partial or complete symptom control in patients with refractory/resistant carcinoid syndrome. A Phase III trial comparing SOM230 LAR against *Sandostatin LAR* in patients with acromegaly is anticipated to report results in 2011. In addition, a Phase III trial comparing SOM230 LAR against *Sandostatin LAR* in patients with carcinoid tumors refractory/resistant to somatostatin analogues is also ongoing. Applications have been submitted to the EU and Swiss regulatory authorities for the use of SOM230 in Cushing's disease and a response is expected by the end of 2011.

Tasigna (nilotinib) is to be studied in patients with GIST and melanoma, and a Phase III registration trial evaluating *Tasigna* versus *Glivec* as first-line treatment for unresectable or metastatic GIST is actively recruiting. A separate trial for patients with cKIT mutated melanoma began in April 2010.

TKI258 (dovitinib) is a multi-targeted kinase inhibitor of FGFR, VEGFR and PDGFR. With a unique preclinical profile its development is focused on FGFR driven diseases. Clinical proof of concept was recently demonstrated in renal cell carcinoma (RCC). A Phase III registration trial in patients with RCC is planned to start in 2011.

Xolair (omalizumab), Following approval in the EU for a liquid formulation of Xolair, preparation is ongoing for the launch. Novartis and Genentech have started development of omalizumab in a new indication, Chronic Idiopathic Urticaria, with Phase III studies due to start in 2011.

Zometa (zoledronic acid) is a leading treatment to reduce or delay skeletal-related events, including pathologic fracture, spinal cord compression, and/or the requirement of radiation therapy or surgery to bone, in patients with bone metastases (cancer that has spread to the bones). In 2008, new clinical trial results (ABCSG-12) showed that *Zometa* reduced the risk of breast cancer returning when used as an adjuvant breast cancer treatment in premenopausal women who received Zometa following curative surgery and hormone therapy, including goserelin treatment to suppress ovarian function and induce menopause. Novartis filed these data in the US and EU in December 2009, requesting an update to the *Zometa* prescribing information. In December 2010, the results of the AZURE trial, which was conducted to determine if *Zometa's* adjuvant therapy had a benefit in preventing recurrences in premenopausal and postmenopausal women with early breast cancer, did not meet the primary endpoint in the overall patient population. In a subgroup of women with well-established menopause, an improvement in disease-free survival and overall survival was shown in the *Zometa* arm. Based on AZURE, the US and European regulatory files for the potential use of *Zometa* for adjuvant breast cancer treatment have been withdrawn. Novartis will discuss next steps with Health Authorities based on the subgroup analysis by menopausal status of the AZURE trial. Positive results from the multiple myeloma IX trial, which showed *Zometa* significantly improved both progression-free survival and overall survival when compared to regimen including oral clodronate, were presented at three major medical meetings and published in The Lancet in 2010.

Zortress/Certican (everolimus) is an mTOR inhibitor with immune/non-immune cell proliferation inhibition being developed for prevention of solid organ transplant rejection. In 2008, Phase III development was initiated worldwide for the prevention of organ rejection in liver transplantation.

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Projects Terminated in 2010

ABF656 (albinterferon alfa-2b) for chronic hepatitis C

ASA404 (vadimezan) for non-small cell lung cancer

Diovan/Starlix for prevention of new onset type 2 diabetes, cardiovascular morbidity and mortality

EPO906 (patupilone) for ovarian cancer

LCI699 for heart failure

Mycograb (efungumab) for invasive candida infections

PTZ601 for staphylococcal skin and soft tissue infections

QAX028 for chronic obstructive pulmonary disease

SBR759 (in western population) for hyperphosphatemia in chronic kidney disease

Valturna/Rasival single-pill-combination for hypertension.

Principal Markets

The Pharmaceuticals Division has a commercial presence in approximately 140 countries worldwide, but net sales are generally concentrated in the US, Europe and Japan, which together accounted for 80% of 2010 net sales. At the same time, sales from fast growing "emerging growth markets" have become increasingly important to us. See "Item 5. Operating and Financial Review and Prospects 5.A Operating Results Factors Affecting Results of Operations Fundamental Drivers Remain Strong Growth of Emerging Markets." The following table sets forth certain data relating to our principal markets in the Pharmaceuticals Division.

Pharmaceuticals	**2010 Net sales to third parties**	
	$ millions	**%**
United States	10,043	33
Americas (except the United States)	2,918	9
Europe	10,877	36
Japan	3,344	11
Rest of the World	3,376	11
Total	**30,558**	**100**

Many of our Pharmaceuticals Division's products are used for chronic conditions that require patients to consume the product over long periods of time, from months to years. Net sales of the vast majority of our products are not subject to material changes in seasonal demand.

Production

The primary goal of our manufacturing and supply chain management program is to ensure the uninterrupted, timely and cost-effective supply of products that meet all product specifications. We manufacture our products at 6 bulk chemical and 13 pharmaceutical production facilities as well as three biotechnology sites. Bulk chemical production involves the manufacture of therapeutically active compounds, mainly by chemical synthesis or by biological processes such as fermentation. Pharmaceutical production involves the manufacture of "galenical" forms of pharmaceutical products such as tablets, capsules, liquids, ampoules, vials and creams. Major bulk chemical sites are located in Schweizerhalle,

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Switzerland; Grimsby, UK; Ringaskiddy, Ireland and Changshu, China. Significant pharmaceutical production facilities are located in Stein, Switzerland; Wehr, Germany; Singapore; Torre, Italy; Barbera, Spain; Suffern, New York; Sasayama, Japan and in various other locations. Our three biotechnology plants are in Huningue, France; Basel, Switzerland and Vacaville, California.

During clinical trials, which can last several years, the manufacturing process for a particular product is rationalized and refined. By the time clinical trials are completed and products are launched, the manufacturing processes have been extensively tested and are considered stable. However, improvements to these manufacturing processes may continue over time.

Raw materials for the manufacturing process are either produced in-house or purchased from a number of third-party suppliers. Where possible, our policy is to maintain multiple supply sources so that the business is not dependent on a single or limited number of suppliers. However, our ability to do so may at times be limited by regulatory or other requirements. We monitor market developments that could have an adverse effect on the supply of essential materials. Our suppliers of raw materials are required to comply with Novartis quality standards.

The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

The Pharmaceuticals Division serves customers with approximately 5,107 field force representatives in the US (including supervisors), and an additional 19,296 in the rest of the world, as of December 31, 2010. These trained representatives, where permitted by law, present the therapeutic and economic benefits of our products to physicians, pharmacists, hospitals, insurance groups and managed care organizations. We are seeing the increasing influence of customer groups beyond the prescribers, and Novartis is responding by adapting our business practices.

Although specific distribution patterns vary by country, Novartis generally sells its prescription drugs primarily to wholesale and retail drug distributors, hospitals, clinics, government agencies and managed healthcare providers.

In the US, certain products can be advertised by way of television, newspaper and magazine advertising. Novartis also pursues co-promotion/co-marketing opportunities as well as licensing and distribution agreements with other companies when legally permitted as well as economically attractive.

Since the implementation of a new US business model in 2008, Novartis has been able to better address customer needs and differences in local market dynamics. The model allows the regional sales forces to be tailored to reach healthcare practitioners in different ways. New account manager positions focused on reaching numerous stakeholders in the treatment decision pathway have been created, and we have geographically adjusted the placement of our representatives to match the local demand for products.

The marketplace for healthcare is evolving with the consumer becoming a more influential stakeholder in their healthcare decisions and looking for solutions to meet their changing needs. Where permitted by law, Novartis is seeking to tap into the power of the patient, delivering innovative solutions to drive loyalty and engagement.

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Competition

The global pharmaceutical market is highly competitive, and we compete against other major international corporations with substantial financial and other resources, which sell branded prescription pharmaceutical products. Competition within the industry is intense and extends across a wide range of commercial activities, including pricing, product characteristics, customer service, sales and marketing, and research and development.

As is the case with other pharmaceutical companies selling patented pharmaceuticals, Novartis faces ever-increasing challenges from companies selling generic forms of our products following the expiry of patent protection, or of products which compete with our products. Generic companies may also gain entry to the market through successfully challenging our patents, but we vigorously use legally permissible remedies to defend our patent rights from generic challenges. In addition, we also face competition from over-the-counter (OTC) products that do not require a prescription from a physician.

Research and Development

We are among the leaders in the pharmaceuticals industry in terms of research and development investment. In 2010, we invested approximately $7.1 billion ($6.2 billion excluding impairment and amortization charges) in Pharmaceuticals Division research and development, which represented 23% of the division's total net sales. Our Pharmaceuticals Division invested $5.8 billion ($5.7 billion excluding impairment and amortization charges) and $5.7 billion ($5.3 billion excluding impairment and amortization charges) in research and development in 2009 and 2008 respectively. There are currently 147 projects in clinical development.

The discovery and development of a new drug is a lengthy process, usually requiring 10 to 15 years from the initial research to bringing a drug to market, including six to eight years from Phase I clinical trials to market. At each of these steps, there is a substantial risk that a compound will not meet the requirements to progress further. In such an event, we may be required to abandon a compound in which we have made a substantial investment.

Research program

Our Research program is responsible for the discovery of new medicines. In 2003, we established the Novartis Institutes for BioMedical Research (NIBR).

At NIBR's headquarters in Cambridge, Massachusetts, more than 1,850 scientists and associates conduct research into disease areas such as cardiovascular and metabolism disease, infectious disease, oncology, muscle disorders and ophthalmology. An additional 4,500 scientists and technology experts conduct research in Switzerland, UK, Austria, Italy, Singapore, China and three other US sites. Research is conducted at these sites in the areas of neuroscience, autoimmune disease, oncology, cardiovascular disease, dermatology, gastrointestinal disease and respiratory disease. In addition, research platforms such as the Center for Proteomic Chemistry are headquartered in the NIBR site in Basel, Switzerland. In January 2010, Novartis integrated four Corporate Research Institutes into NIBR: the Novartis Institute for Tropical Diseases (NITD) in Singapore; Novartis Vaccines for Global Health (NVGH) in Siena, Italy; the Frederich Miescher Institute (FMI), in Basel, Switzerland; and the Genomics Institute of the Novartis Research Foundation, in La Jolla, California. These four institutes focus on basic genetic and genomic research as well as research into diseases of the developing world such as malaria, tuberculosis, dengue and typhoid fever.

In October 2010, we announced that we would invest $600 million over the next five years to build new laboratory and office space in Cambridge on an area of land close to our research facilities on Massachusetts Avenue.

Our principal goal is to discover new medicines for diseases with high unmet medical need. To do this we focus our work in areas where we have sufficient scientific understanding and believe we have the

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potential to dramatically change the practice of medicine. This requires the hiring and retention of the best talent, a focus on fundamental disease mechanisms that are relevant across different disease areas, continuous improvement in technologies for drug discovery and potential therapies, close alliance with clinical colleagues, and the establishment of appropriate external complementary alliances.

All drug candidates are taken to the clinic via "proof-of-concept" trials to enable rapid testing of the fundamental efficacy of the drug while collecting basic information on pharmacokinetics, safety and tolerability, and adhering to the guidance for early clinical testing set forth by health authorities.

Over the past five years, the output from NIBR has grown progressively. The portfolio of pre-clinical and early clinical New Molecular Entities has increased more than 60%, and 50% of compounds from NIBR are succeeding in Phase II clinical trials. In addition, biologic medicines antibodies and protein therapeutics have grown to constitute 30% of NIBR's pre-clinical portfolio.

Development program

The focus of our Development program is to determine whether new drugs are safe and effective in humans. As previously described (see " Compounds in Development"), we view the development process as generally consisting of an Exploratory phase where a "proof of concept" is established, and a Confirmatory phase where this concept is confirmed in large numbers of patients. Within this paradigm, clinical trials of drug candidates generally proceed through the traditional three phases: I, II and III. In Phase I clinical trials, a drug is usually tested with about 5 to 15 patients. The tests study the drug's safety profile, including the safe dosage range. The studies also determine how a drug is absorbed, distributed, metabolized and excreted, and the duration of its action. In Phase II clinical trials, the drug is tested in controlled studies of approximately 100 to 300 volunteer patients to assess the drug's effectiveness and safety, and to establish a proper dose. In Phase III clinical trials, the drug is further tested on larger numbers of volunteer patients in clinics and hospitals. In each of these phases, physicians monitor volunteer patients closely to assess the drug's safety and efficacy. The vast amount of data that must be collected and evaluated makes clinical testing the most time-consuming and expensive part of new drug development. The next stage in the drug development process is to seek registration for the new drug. See " Regulation."

Novartis Molecular Diagnostics

Recent advances in biology and bioinformatics have lead to a much deeper understanding of the genetic underpinnings of disease and drug targets. Novartis Molecular Diagnostics (MDx), an integrated unit within Novartis Pharmaceuticals, is working to capitalize on these scientific advances to develop innovative diagnostic tests which potentially could improve physicians' ability to optimize patient outcomes and may enable physicians to administer the right treatment to the right patient at the right time.

At its core, Novartis MDx is rooted in the company's leadership in drug discovery and development, and advancing "personalized medicine" is a key component of the company's strategy. Working closely with, and building on the strong science of NIBR and our Pharmaceuticals Division, MDx works to bring the full power of our internal capabilities and resources to bear in an effort to develop and commercialize important new diagnostic tests to support our development products and disease areas. Additionally, MDx strategically works with external collaborators to leverage technologies and capabilities that fit our diagnostic requirements.

Our strategy is focused on addressing unmet medical need regardless of market size, and we have a robust and expanding portfolio of molecular diagnostic programs. MDx is aiming for multiple launches over the next few years.

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Alliances and acquisitions

Our Pharmaceuticals Division enters into business development agreements with other pharmaceutical and biotechnology companies and with academic institutions in order to develop new products and access new markets. We license products that complement our current product line and are appropriate to our business strategy. Therapeutic area strategies have been established to focus on alliances and acquisition activities for key disease areas/indications that are expected to be growth drivers in the future. We review products and compounds we are considering licensing using the same criteria as we use for our own internally discovered drugs.

Regulation

The international pharmaceutical industry is highly regulated. Regulatory authorities around the world administer numerous laws and regulations regarding the testing, approval, manufacturing, importing, labeling and marketing of drugs, and also review the safety and efficacy of pharmaceutical products. In particular, extensive controls exist on the non-clinical and clinical development of pharmaceutical products. These regulatory requirements, and the implementation of them by local health authorities around the globe, are a major factor in determining whether a substance can be developed into a marketable product, and the amount of time and expense associated with that development.

Health authorities, including those in the US, EU, Switzerland and Japan, have high standards of technical evaluation. The introduction of new pharmaceutical products generally entails a lengthy approval process. Of particular importance is the requirement in all major countries that products be authorized or registered prior to marketing, and that such authorization or registration be subsequently maintained. In recent years, the registration process has required increased testing and documentation for clearance of new drugs, with a corresponding increase in the expense of product introduction.

To register a pharmaceutical product, a registration dossier containing evidence establishing the quality, safety and efficacy of the product must be submitted to regulatory authorities. Generally, a therapeutic product must be registered in each country in which it will be sold. In every country, the submission of an application to a regulatory authority does not guarantee that approval to market the product will be granted. Although the criteria for the registration of therapeutic drugs are similar in most countries, the formal structure of the necessary registration documents and the specific requirements, including risk tolerance, of the local health authorities varies significantly from country to country. It is possible that a drug can be registered and marketed in one country while the registration authority in another country may, prior to registration, request additional information from the pharmaceutical company or even reject the product. It is also possible that a drug may be approved for different indications in different countries.

The registration process generally takes between six months and several years, depending on the country, the quality of the data submitted, the efficiency of the registration authority's procedures and the nature of the product. Many countries provide for accelerated processing of registration applications for innovative products of particular therapeutic interest. In recent years, intensive efforts have been made among the US, the EU and Japan to harmonize registration requirements in order to achieve shorter development and registration times for medical products. However, the requirement in many countries to negotiate selling prices or reimbursement levels with government regulators can substantially extend the time until a product may finally be launched to the market.

The following provides a summary of the regulatory processes in the principal markets served by Pharmaceuticals Division affiliates:

United States

In the US, applications for drug registration are submitted to and reviewed by the FDA. The FDA regulates the testing, manufacturing, labeling and approval for marketing of pharmaceutical products

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intended for commercialization in the US. The FDA continues to monitor the safety of pharmaceutical products after they have been approved for marketing in the US market. The pharmaceutical development and registration process is typically intensive, lengthy and rigorous. When a pharmaceutical company has gathered data which it believes sufficiently demonstrates a drug's quality, safety and efficacy, then the company may file a New Drug Application (NDA) or biologics license application (BLA), as applicable, for the drug. The NDA or BLA must contain all the scientific information that has been gathered about the drug and typically includes information regarding the clinical experiences of patients tested in the drug's clinical trials. A Supplemental New Drug Application (sNDA) or BLA amendment must be filed for new indications for a previously approved drug.

Once an NDA or BLA is submitted, the FDA assigns reviewers from its biopharmaceutics, chemistry, clinical microbiology, pharmacology/toxicology, and statistics staff. After a complete review, these content experts then provide written evaluations of the NDA or BLA. These recommendations are consolidated and are used by the Senior FDA staff in its final evaluation of the NDA/BLA. Based on that final evaluation, FDA then provides to the NDA or BLA's sponsor an approval, or a "complete response" letter if the NDA or BLA application is not approved. If not approved, the letter will state the specific deficiencies in the NDA or BLA which need to be addressed. The sponsor must then submit an adequate response to the deficiencies in order to restart the review procedure.

Once the FDA has approved an NDA or BLA or sNDA or BLA amendment, the company can make the new drug available for physicians to prescribe. The drug owner must submit periodic reports to the FDA, including any cases of adverse reactions. For some medications, the FDA requires additional post-approval studies (Phase IV) to evaluate long-term effects or to gather information on the use of the product under special conditions.

Throughout the life cycle of a product, the FDA also requires compliance with standards relating to good laboratory, clinical, manufacturing and promotional practices.

European Union

In the EU, there are three main procedures for application for authorization to market pharmaceutical products in the EU Member States, the Centralized Procedure, the Mutual Recognition Procedure and the Decentralized Procedure. It is also possible to obtain a national authorization for products intended for commercialization in a single EU member state only, or for additional indications for licensed products.

Under the Centralized Procedure, applications are made to the European Medicines Agency (EMA) for an authorization which is valid for the European Community. The Centralized Procedure is mandatory for all biotechnology products and for new chemical entities in cancer, neurodegenerative disorders, diabetes and AIDS, autoimmune diseases or other immune dysfunctions and optional for other new chemical entities or innovative medicinal products or in the interest of public health. When a pharmaceutical company has gathered data which it believes sufficiently demonstrates a drug's quality, safety and efficacy, then the company may submit an application to the EMA. The EMA then receives and validates the application, and appoints a Rapporteur and Co-Rapporteur to review it. The entire review cycle must be completed within 210 days, although there is a "clock stop" at day 120, to allow the company to respond to questions set forth in the Rapporteur and Co-Rapporteur's Assessment Report. When the company's complete response is received by the EMA, the clock restarts on day 121. If there are further aspects of the dossier requiring clarification, the EMA will then request an Oral Explanation on day 180, in which the sponsor must appear before the EMA's Scientific Committee (the CHMP) to provide the requested additional information. On day 210, the CHMP will then take a vote to recommend the approval or non-approval of the application. The final decision under this Centralized Procedure is an EU Community decision which is applicable to all Member States. This decision occurs on average 60 days after a positive CHMP recommendation.

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Under the Mutual Recognition Procedure (MRP), the company first obtains a marketing authorization from a single EU member state, called the Reference Member State (RMS). In the Decentralized Procedure (DCP) the application is done simultaneously in selected or all Member States if a medicinal product has not yet been authorized in a Member State. During the DCP, the RMS drafts an Assessment Report within 120 days. Within an additional 90 days the Concerned Member States (CMS) review the application and can issue objections or requests for additional information. On Day 90, each CMS must be assured that the product is safe and effective, and that it will cause no risks to the public health. Once an agreement has been reached, each Member State grants national marketing authorizations for the product.

After the Marketing Authorizations have been granted, the company must submit periodic safety reports to the EMA (if approval was granted under the Centralized Procedure) or to the National Health Authorities (if approval was granted under the DCP or the MRP). In addition, several Pharmacovigilance measures must be implemented and monitored including Adverse Event collection, evaluation and expedited reporting and implementation as well as up-date of Risk Management Plans.

European Marketing Authorizations have an initial duration of five years. After this time, the Marketing Authorization may be renewed by the competent authority on the basis of re-evaluation of the risk/benefit balance. Once renewed the Marketing Authorization is valid for an unlimited period. Any Marketing Authorization which is not followed within three years of its granting by the actual placing on the market of the corresponding medicinal product shall cease to be valid.

Japan

In Japan, applications for new products are made through the Pharmaceutical and Medical Devices Agency (PMDA). Once an NDA is submitted, a review team is formed consisting of specialized officials of the PMDA, including chemistry/manufacturing, non-clinical, clinical and biostatistics. While a team evaluation is carried out, a data reliability survey and Good Clinical Practice inspection are carried out by the Office of Conformity Audit of the PMDA. Team evaluation results are passed to the PMDA's external experts who then report back to the PMDA. After a further team evaluation, a report is provided to the Ministry of Health, Labor and Welfare (MHLW), which makes a final determination for approval and refers this to the Council on Drugs and Foods Sanitation which then advises the MHLW on final approvability. Marketing and distribution approvals require a review to determine whether or not the product in the application is suitable as a drug to be manufactured and distributed by a person who has obtained a manufacturing and distribution business license for the type of drug concerned and confirmation that the product has been manufactured in a plant compliant with Good Manufacturing Practices.

Once the MHLW has approved the application and has listed its national health insurance price, the company can make the new drug available for physicians to prescribe and obtain reimbursement. For some medications, the MHLW requires additional post-approval studies (Phase IV) to evaluate safety, effects and/or to gather information on the use of the product under special conditions. The MHLW also requires the drug's sponsor to submit periodic safety update reports. Within three months from the specified re-examination period, which is designated at the time of the approval of the application for the new product, the company must submit a re-examination application to enable the drug's safety and efficacy to be reassessed against approved labeling by the PMDA.

Price Controls

In most of the markets where we operate, the prices of pharmaceutical products are subject to both direct and indirect price controls and to drug reimbursement programs with varying price control mechanisms. Due to increasing political pressure and governmental budget constraints, we expect these mechanisms to remain in place and to perhaps even be strengthened and to have a negative influence on the prices we are able to charge for our products.

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Direct efforts to control prices.

United States. In the US, as a result of the recently passed health care reform legislation, there is a significant risk of future actions to control prices. Specifically, there is a newly created entity, the Independent Payment Advisory Board, which has unprecedented authority to implement broad actions to reduce future costs of the Medicare program. This could include required prescription drug discounts or rebates, which could limit net prices for our products. In addition, the legislation included language authorizing significant increases in Medicaid rebates, effective in 2010, and new required discounts in the Medicare Part D program, effective in 2011. There is a risk that governmental officials will continue to search for ways to reduce or control prices.

Europe. In Europe, our operations are subject to significant price and marketing regulations. Many governments are introducing healthcare reforms in a further attempt to curb increasing healthcare costs. In the EU, governments influence the price of pharmaceutical products through their control of national healthcare systems that fund a large part of the cost of such products to consumers. The downward pressure on healthcare costs in general in the EU, particularly with regard to prescription drugs, has become very intense. Increasingly high barriers are being erected against the entry of new products. In addition, prices for marketed products are referenced within Member States and across Member State borders, including new EU Member States.

Japan. In Japan, the government generally introduces price cut rounds every other year, and the government additionally mandates price decreases for specific products. In 2010, the National Health Insurance price calculation method for new products and the price revision rule for existing products were reviewed, and the resulting new drug tariffs were effective beginning April 2010. The Japanese government is currently undertaking a healthcare reform initiative with a goal of sustaining the universal coverage of the National Health Insurance program, and is addressing the promotion of generic use and enhancement of pricing for new products. Meanwhile, the government tentatively initiated a premium system which basically maintains the price of patented drugs for unmet medical needs in order to promote innovative new drug creation and the solution of the unapproved indication issue. The continuance of this system will be reviewed as a part of price reforms in 2012.

Rest of World. Many other countries around the world are also taking steps to rein in prescription drug prices. As just one example, in 2010, Turkey, one of our most important emerging growth markets, imposed a price reduction on prescription drugs ranging from 11-23%.

Regulations favoring generics. In response to rising healthcare costs, many governments and private medical care providers, such as Health Maintenance Organizations, have instituted reimbursement schemes that favor the substitution of generic pharmaceuticals for more expensive brand-name pharmaceuticals. In the US, generic substitution statutes have been enacted by virtually all states and permit or require the dispensing pharmacist to substitute a less expensive generic drug instead of an original branded drug. Other countries have similar laws. We expect that the pressure for generic substitution will continue to increase.

Cross-Border Sales. Price controls in one country can also have an impact in other countries as a result of cross-border sales. In the EU, products which we have sold to customers in countries with stringent price controls can in some instances legally be re-sold to customers in other EU countries with less stringent price controls at a lower price than the price at which the product is otherwise available in the importing country. In North America, products which we have sold to customers in Canada, which has relatively stringent price controls, are sometimes re-sold into the US, again at a lower price than the price at which the product is otherwise sold in the US. Such imports from

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Canada and other countries into the US are currently illegal. However, political efforts continue at the US federal, state and local levels to change the legal status of such imports.

We expect that pressures on pricing will continue worldwide, and may increase. Because of these pressures, there can be no certainty that in every instance we will be able to charge prices for a product that, in a particular country or in the aggregate, enable us to earn an adequate return on our investment in that product.

Intellectual Property

We attach great importance to patents, trademarks, and know-how in order to protect our investment in research and development, manufacturing and marketing. It is our policy to seek the broadest protection available under applicable laws for significant product developments in all major markets. Among other things, patents may cover the products themselves, including the product's active ingredient and its formulation. Patents may cover processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen. In addition, patents may cover assays or tests for certain diseases or biomarkers, which will improve patient outcomes when administered certain drugs.

The protection offered by such patents extends for varying periods depending on the grant, duration and enforceability of patents in the various countries. The protection afforded, which may vary from country to country, depends upon the type of patent and its scope of coverage. The duration of the protection will further depend on the patent expiry date and on the availability of patent term extensions, as well as other regulatory provisions for exclusivity such as data exclusivity, orphan drug status and pediatric exclusivity.

The following is a summary of the patent expiration dates for certain key products of our Pharmaceuticals Division:

Cardiovascular and Metabolism

Diovan/Co-Diovan/Diovan HCT. We have patent protection (including extensions) on valsartan, the active ingredient used in our best-selling products *Diovan* and *Co-Diovan/ Diovan-HCT*, until 2011 in the major countries of the EU (Patent expiry in February 2011, with an extension to May 2011 in France, Germany, Italy and the UK, and a pediatric extension to November 2011 already granted in some countries, and pending in others); until September 2012 in the US; and until 2013 for *Diovan* and 2016 for *Co-Diovan* in Japan. Patent litigations are ongoing against generic manufacturers in Europe and Asia.

Exforge. *Exforge* is a single-pill combination of amlodipine besylate and valsartan. The valsartan patent expires 2011-13 (see above), except that, in Japan, the valsartan patent was extended for the *Exforge* product only, to 2015. The patent on amlodipine besylate has expired. The patent covering the *Exforge* product will expire in 2019 and has been challenged in both the US and Europe. We have regulatory exclusivity for the data generated for *Exforge* in Europe until 2017 and in Japan until 2014.

Tekturna/Rasilez, Valturna and Tekamlo. Patent protection for aliskiren, the active ingredient of *Tekturna/Rasilez*, and the only patented active ingredient in *Valturna* and *Tekamlo*, will expire in 2018 in the US (not including pediatric extension) and between 2015 and 2020 in other markets.

Galvus and *Eucreas*. Patent protection for vildagliptin, the active ingredient of *Galvus*, and the patented active ingredient in *Eucreas*, is estimated to expire, with extensions, in 2019-24 in markets outside of the US, and in 2024 in the US (not including pediatric extension).

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Oncology

Gleevec/Glivec. We have patent protection on imatinib, the active ingredient used in our leading product *Gleevec/Glivec*, until July 2015 in the US (including pediatric extension), until 2016 in the major EU countries (including pediatric extension), and until 2014 in Japan (including extensions). Patent protection on a new crystal form of imatinib has been challenged in the US, but no challenge has been made to the compound patent in the US. In Turkey, where we do not have protection for the compound, we brought suit in 2007 for infringement of the imatinib formulation, indication and crystal form patents against a local company that had obtained generic marketing authorization for a generic version of *Glivec*. We obtained a preliminary injunction in Turkey, but it was lifted in 2008. Litigation is ongoing. In Canada, a generic company has challenged the compound patent.

Tasigna. Patent protection for the active ingredient in *Tasigna* will expire in 2023 in the US and other major markets.

Zometa and *Reclast/Aclasta.* Patent protection on zoledronic acid, the active ingredient in these products, will expire in 2013 in the US and 2012-2013 in other major markets. We have settled patent litigation which we brought in the US against a generic manufacturer who challenged our patent on zoledronic acid. Under the settlement agreement, the generic manufacturer has dropped the challenge against the Novartis patent and will not launch zoledronic acid in the US until after the patent covering *Zometa* and *Reclast* expires in March 2013.

Femara. Patent protection for the active ingredient in *Femara* will expire in 2011 in the US as well as in major European markets, and in 2012 in Japan. Data exclusivity in Japan expires in 2014. Patent litigation against a generic manufacturer who challenged the patent for the *Femara* active ingredient in the US has been settled. Generic versions of *Femara* are available in a limited number of EU countries, as well as in several developing country markets.

Sandostatin. Patent protection for the active ingredient of *Sandostatin* has expired. Generic versions of *Sandostatin SC* are available in the US and elsewhere. Patents protecting the *Sandostatin LAR* formulation, the long-acting version of *Sandostatin* which represents a majority of our *Sandostatin* sales, expire in 2014 and beyond in the US, but expired in July 2010 in key markets outside the US.

Exjade. Patent protection for the active ingredient in *Exjade* will expire in 2019 in the US and 2021 in other markets.

Afinitor and *Zortress/Certican*. Patent protection for everolimus, the active ingredient in these products, and licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents, is expected to expire in 2020 in the US and in 2018 - 2019 in Europe and other major countries.

Neuroscience and Ophthalmics

Lucentis. Patent protection for the active ingredient in *Lucentis* expires in 2018-22 in the EU and Japan. We do not have rights to market the product in the US. In December 2009, MedImmune filed a patent infringement suit against us in the UK and elsewhere in Europe, alleging that *Lucentis* infringes MedImmune's patents. MedImmune's European patents expire in 2011, but some may be extended to 2016. We have filed countersuits throughout Europe alleging non-infringement and invalidity.

Exelon. Patent protection for the active ingredient in *Exelon*, granted to Proterra and licensed to Novartis, will expire in 2012 in the US and in 2011 in most other major markets. We hold a patent on a specific isomeric form of the active ingredient used in *Exelon* which expires in 2012-14 in major markets. *Exelon* Patch is further covered by a formulation

patent expiring in 2019 in major markets. Generic manufacturers filed applications to market a version of *Exelon* capsules in the US, but not the *Exelon* Patch, and challenged our patents. The resulting US lawsuits were settled.

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Under the terms of the settlement agreements, Novartis granted the generic manufacturers a license to our US patents covering *Exelon.* As a result, two generic manufacturers launched *Exelon* capsules in July 2010. The agreements do not permit the generic manufacturers to launch a generic version of the *Exelon* Patch prior to the patent expiration date. In some European countries generic manufacturers recently obtained marketing approvals for an oral *Exelon* formulation. In June 2010, several generic manufacturers in Spain were enjoined from selling generic versions of the oral formulation.

Extavia. Patent protection for the active ingredient of *Extavia* has expired. In May 2010, Biogen Idec filed a patent infringement suit in the US against Novartis, alleging that *Extavia* infringes its patent. The recently-granted patent will expire in September 2026. The litigation is ongoing.

Comtan. Patent protection for entacapone, the active ingredient in *Comtan*, which we licensed from Orion, will expire in the US in 2013 and in Europe in 2012. Other patents, such as a polymorph patent, have also been granted. Litigation concerning the patent on entacapone by Orion against generic manufacturers who have challenged these patents has been settled. Under the terms of the settlement agreements, the first to file generic challenger may launch a generic version of *Comtan* in September 2012, prior to the expiration of the entacapone compound patent. The second generic challenger can launch a generic version of *Comtan* in April 2013. Novartis was not a party to the litigation.

Stalevo. One of the active ingredients in *Stalevo* is entacapone, the active ingredient in *Comtan.* Patent protection for entacapone will expire in 2012-13 (see above). *Stalevo* is protected by additional patents expiring up to 2020. Patent litigation by Orion in the US against generic manufacturers who have challenged the patent on entacapone and *Stalevo* formulation patents has been settled, allowing the generic challengers to launch generic versions of *Stalevo* in April 2012, prior to the expiration of the entacapone compound patent. Novartis was not a party to the litigation.

Gilenya. Patent protection for fingolimod, the active ingredient in *Gilenya* (licensed from Mitsubishi Tanabe Pharma Corporation), is expected to expire in 2019 in the US (including a 5-year Patent Term Extension) and in 2018 in Europe. Patent protection for the commercial formulation of *Gilenya* will expire in 2024 in most major markets.

Respiratory

Xolair. Patent protection for the active ingredient in *Xolair* will expire in 2018 in the US and in 2017 in other markets.

Onbrez. Patent protection for the active ingredient of *Onbrez* is expected to expire in the US and EU in 2024 and in 2020 in various other markets.

Integrated Hospital Care

Ilaris. Patent protection for the active ingredient in *Ilaris* is expected to expire in 2023 in the US and in 2024 in Europe.

Neoral/Sandimmune. Patent protection for the cyclosporin ingredient of *Neoral/Sandimmune* has expired worldwide.

Myfortic. There is no patent protection for the active ingredient in *Myfortic*. Patents covering the formulation will expire in 2017. Patent litigation against the generic manufacturers which challenged these patents is ongoing in the US.

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Other Pharmaceutical Products

Voltaren/Cataflam. Patent protection for the active ingredient in *Voltaren* has expired worldwide.

Lescol/Lescol XL. Patent protection for the active ingredient in *Lescol* will expire in 2012 (including pediatric exclusivity) in the US and has already expired in 2008 in major European markets. Formulation patents will expire in 2012 and beyond. Patent litigation under the compound patent is ongoing against a generic manufacturer who filed for marketing authorization for a generic version of *Lescol* in the US, challenging the patent on the active ingredient and one formulation patent. An at-risk launch of a generic version of this product is possible in the US beginning in February 2011, at the expiration of the 30-month stay, absent a court decision to the contrary before then. Other generic manufacturers have filed for marketing authorization challenging formulation patents for *Lescol XL* in the US. In Europe, several generic manufacturers have challenged the validity of formulation patents for *Lescol XL* that expire in 2017. The European Patent Office (EPO), the UK and the Netherlands have revoked the patent, and the UK decision has been confirmed on appeal. The Dutch and EPO decisions are now on appeal. Generic manufacturers have launched generic products in several European markets.

The loss of patent protection can have a significant adverse impact on our Pharmaceuticals Division. We work to offset these negative effects by developing process and product improvements, protecting those improvements with patents, by positioning many of our products in specific market niches, and marshalling our efforts to discover new therapeutic compounds. However, there can be no assurance that these strategies will be effective in the future to ensure competitive advantage, or that we will be able to avoid substantial adverse effects from the loss of patent protection in the future.

There is also a risk that some countries, particularly countries in the developing world, may seek to impose limitations on the availability of patent protection for pharmaceutical products, or on the extent to which such protections may be enforced. In countries that adopt such measures, generic manufacturers will be able to introduce competing products earlier than they otherwise would under a patent protection regime.

In addition, even though we may own or license patents protecting our products, and conduct pre-launch freedom-to-operate analyses, a third party may nevertheless claim that one of our products infringes an unlicensed third-party patent.

VACCINES AND DIAGNOSTICS

Our Vaccines and Diagnostics Division is a leader in the research, development, manufacturing and marketing of vaccines and diagnostic tools worldwide. As of December 31, 2010, the Vaccines and Diagnostics Division employed 5,394 full-time equivalent associates worldwide in 30 countries. In 2010, the Vaccines and Diagnostics Division had consolidated net sales of $2.9 billion representing 6% of total Group net sales.

The Novartis Vaccines and Diagnostics Division is a leading manufacturer of human vaccines, and is growing at double-digit rates. Novartis Vaccines' products include influenza, meningococcal, pediatric, adult and travel vaccines. Novartis Diagnostics is dedicated to preventing the spread of infectious diseases through the development and marketing of nucleic acid technology blood-screening products, and is also creating innovative diagnostics to detect, prevent, and predict disease and improve medical outcomes.

The current product portfolio of our Vaccines and Diagnostics Division includes more than 20 marketed products. In addition, the division's portfolio of development projects includes more than 15 potential new products in various stages of clinical development.

Influenza vaccines are a core franchise of the Division, with brands that include *Fluvirin*, *Fluad*, *Agrippal*, *AgriFlu* and *Optaflu*. Additionally, during the 2009-2010 A (H1N1) pandemic, Novartis offered three pandemic products, an A (H1N1) non-adjuvanted vaccine manufactured using the *Fluvirin* platform,

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Focetria and *Celtura***.** Today Novartis is among the world's largest producers of influenza vaccines, and a major supplier to the US, UK, Italy, Germany and other countries. According to the World Health Organization, every year an estimated 3 million to 5 million people worldwide become seriously ill from influenza, and as many as 500,000 primarily children and the elderly die from the ensuing complications. This year, we began shipping seasonal vaccine in August, and completed our entire shipment of 45 million doses to the US for the 2010/2011 season in October 2010, earlier than in previous years and ahead of many competitors.

We continued to see strong clinical results supporting licensing applications for the broader use of *Fluad*, our adjuvanted seasonal vaccine currently available for the elderly in Europe and in countries in other regions. In October 2010, we presented data that demonstrated *Fluad* provided increased clinical protection against seasonal influenza in children as compared to traditional non-adjuvanted trivalent seasonal influenza vaccine, thus supporting potential expansion of its age indication and into additional markets including the US.

In the first half of 2010, we completed the distribution of A (H1N1) vaccine, meeting our commitments to government customers and helping to protect millions against the pandemic virus strain. The rapid production and distribution of these vaccines which began within four months of the World Health Organization's pandemic declaration on June 11, 2009 was an unprecedented, one-time event. While the A (H1N1) pandemic has concluded, we continue our work of developing pre-pandemic vaccines with the potential to protect the global population against possible future pandemics. In September 2010, the CHMP issued a positive opinion for *Aflunov*, an investigational pre-pandemic avian influenza vaccine, for active immunization against H5N1 subtype of Influenza A virus in adults 18 years of age and older. H5N1 (commonly referred to as avian or bird flu) accounts for most avian influenza outbreaks globally and is a serious health concern given its potential to evolve into a deadly pandemic strain at any time. In general, a pre-pandemic vaccine is intended to be used to protect against disease from circulating subtypes of influenza virus not included in the seasonal products, but which causes human disease or carries the potential to cause a pandemic.

The Novartis meningococcal franchise is expected to be a cornerstone of future growth for the division. Our marketed and candidate vaccines have the potential to protect millions against meningococcal disease, which causes approximately 50,000 deaths a year globally. Because almost all cases of infection are caused by five serogroups A, B, C, W-135 and Y and the distribution of strains varies greatly over time and location, Novartis is working to deliver vaccines with broad coverage and the potential to protect all age groups at risk.

Menveo (MenACWY-CRM), a quadrivalent conjugate vaccine for the prevention of the A, C, Y and W-135 strains of meningococcal meningitis, was approved in 2010 in the US for use in individuals 11-55 years old and in the EU for individuals 11 years and up. Our *Menveo* development program to expand the age range for which *Menveo* is indicated to cover persons aged 2 months to 10 years old in the US and EU is ongoing, and biologics license applications for use of *Menveo* in infants and toddlers were submitted in the US in 2010 with similar filings expected in Europe in 2011. *Menveo* has also received Halal certification in the US and Indonesia, facilitating its use for pilgrims from those and other countries to the Hajj and Umrah, where there is a history and increased risk of outbreaks of meningococcal disease.

Bexsero, the Novartis investigational multicomponent meningococcal serogroup B vaccine (4CMenB), has shown the potential to be the first vaccine to provide broad coverage against meningococcal B disease. In September 2010, Novartis released pivotal Phase III data that indicated that a large majority of infants vaccinated with *Bexsero* achieved a robust immune response against all vaccine antigens. In the trial involving more than 3,600 infants, results showed that *Bexsero* met its primary endpoints, and exhibited an acceptable tolerability profile when co-administered with other routine infant vaccinations, thus supporting potential use of this vaccine in the first year of life when the medical need is considered to be the greatest. Additional data published in November in the Proceedings of the National Academy of

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Sciences showed that antibodies induced by *Bexsero* killed 85% of a large collection of MenB strains in adults and 74% in infants, who are at the highest risk for meningococcal disease.

Novartis Vaccines continued to expand geographically, nearing completion of the acquisition of an 85% stake in the vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd., which offers marketed vaccine products in China. In addition, we have achieved significant milestones in Brazil, entering into an agreement in 2009 with the Fundação Ezequiel Dias in Brazil for meningitis C vaccine technology transfer. This agreement has helped the vaccine be made available to all children in the country under two as part of a national immunization program starting in 2010.

The Diagnostics business continued to grow in 2010. EFS, the French national blood service, began using Novartis nucleic acid testing (NAT) systems to screen the entire French blood supply for HIV and Hepatitis. (Previously, EFS used Novartis systems to screen 30% of its blood supply.) EFS is testing its blood donations in individual donor format (vs. pools of multiple donors) to ensure maximum analytical sensitivity, and at the same time eliminate the pooling and pool-resolution stages. Also during 2010, Novartis signed a long-term agreement with Creative Testing Solutions, the second-largest blood-testing laboratory in the United States, which will expand its use of Novartis NAT blood screening products, including the addition of testing blood donations for hepatitis B virus DNA using NAT.

We also expanded our line of nucleic acid testing products in Asia Pacific with approval of the *Procleix Ultrio* test in China. The test detects HIV Type 1, Hepatitis B virus, and Hepatitis C virus in donated blood in a single assay. Novartis signed a collaboration and license agreement with Smiths Detection (UK) in April 2010 under which Novartis is granted exclusive rights to market Smiths Detection's Bio-Seeq instrument and the associated LATE PCR DNA analysis technology in the area of infectious disease diagnostics. Smiths Detection will leverage its expertise in instrument development and point-of-care diagnostic devices to further enhance the Bio-Seeq platform and sample preparation consumables and to develop a range of diagnostic tests. Novartis Diagnostics will be responsible for clinical trials, regulatory affairs, sales and marketing. Payments to Smiths Detection will be linked to product development and commercial milestones.

Vaccines and Diagnostics Division Products

The summary and the tables that follow describe key marketed products and potential products in development in our Vaccines and Diagnostics Division. Subject to required regulatory approvals and, in certain instances, contractual limitations, we intend to sell our marketed products throughout the world. However, our Vaccines and Diagnostics Division products are not currently available in every country. Regarding our products in development, these products and indications are in various stages of development throughout the world. For some products, the development process is ahead in the US; for others, development in one or more other countries or regions is ahead of that in the US. Due to the uncertainties associated with the development process, and due to regulatory restrictions in some countries, it may not be possible to obtain regulatory approval for any or all of the new products referred to in this Form 20-F. See " Regulation" for further information on the approval process.

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Key Marketed Vaccine Products

Product	Indication
Influenza Vaccines	
Agrippal/AgriFlu	A surface antigen, inactivated, seasonal influenza vaccine for adults and children above six months of age. *Agrippal* is marketed in the US under the name *AgriFlu*, and is approved there in subjects 18 years of age and up
Fluad	A surface antigen, inactivated, seasonal influenza vaccine containing the proprietary *MF59* adjuvant for the elderly
Fluvirin	A surface antigen, inactivated, seasonal influenza vaccine for adults and children four years of age and up
Optaflu	Cell culture-based, surface antigen, inactivated, influenza vaccine for adults 18 years of age and up
Focetria	Surface antigen, inactivated, influenza vaccine, containing the proprietary *MF59* adjuvant, for prophylaxis against the pandemic H1N1v virus strain, in subjects 6 months of age and up
Celtura	Cell culture-based, surface antigen, inactivated, influenza vaccine, containing the proprietary *MF59* adjuvant, for prophylaxis against the pandemic H1N1v virus strain, in subjects 6 months of age and up
Meningococcal Vaccines	
Menjugate	Meningococcal C vaccine for children 2 months of age and up
Menveo	Meningococcal A, C, W-135 and Y vaccine for adolescents and adults between 11 and 55 years of age (11+ in the EU)
Travel Vaccines	
Encepur Children	
Encepur Adults	Tick-borne encephalitis vaccine for children 1-11 years of age and for adults 12+ years of age
Ixiaro[1]	Prophylactic vaccine against Japanese encephalitis virus
Rabipur/Rabavert	Vaccine for rabies, which can be used before or after exposure (typically animal bites)
Pediatric Vaccines	
Polioral	Live, attenuated, oral poliomyelitis vaccine (Sabin) containing attenuated poliomyelitis virus types 1, 2 and 3 from birth
Quinvaxem[2]	Fully liquid pentavalent vaccine combining antigens for protection against five childhood diseases: diphtheria, tetanus, pertussis (whooping cough), hepatitis B and Haemophilus influenzae type b for children above 6 weeks of age

(1) In collaboration with Intercell

(2) In collaboration with Crucell

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Vaccine Key Products in Development

Therapeutic Area	Project/Compound	Potential Indication/ Disease Area	Planned filing dates/ Current phase
Influenza	*Optaflu*	Cell culture-based surface antigen, inactivated, seasonal influenza vaccine	EU registered; US Phase III
	Fluad	A surface antigen, inactivated, seasonal influenza vaccine containing the proprietary *MF59* adjuvant in development for adults 65+ years of age in the US, and for children up to 8 years of age in the EU	EU filed (pediatric) US Phase III (elderly)
	AgriFlu pediatric	A surface antigen inactivated seasonal influenza vaccine in development for children 6 months 18 years of age in the US	Registered, US Phase III
	Aflunov	A (H5N1) influenza vaccine containing the proprietary *MF59* adjuvant for pre-pandemic use in subjects 18 years of age and up	EU CHMP positive opinion received in October, 2010; US Phase II
	H5N1 FCC	Cell-culture-based A (H5N1) influenza vaccine for pre-pandemic use (age range to be defined) for the US	Phase II
Meningococcal	*Menveo*	Quadrivalent meningococcal vaccine for strains A, C, Y and W-135 for infants, adolescents and adults	Registered (adolescents & adults) (US & EU) US filed/EU Phase III (infants) US Filed (Ages 2-10)
	Bexsero	Multicomponent meningococcal serogroup B vaccine for infants, adolescents and adults	EU submitted, US Phase II
	MenABCWY	Meningococcal vaccine for strains A, B, C, Y and W-135	Phase II

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Therapeutic Area	Project/Compound	Potential Indication/ Disease Area	Planned filing dates/ Current phase
P aeruginosa		Prophylactic vaccine for P aeruginosa infections[1]	Phase II
HIV[1]		Prophylactic HIV vaccine	Phase I
GBS		Prophylactic Group B Streptococcus (GBS) vaccine	Phase I
H pylori		Prophylactic vaccine for H pylori	Phase I
CMV[2]		Prophylactic vaccine for cytomegalovirus	Phase I
S Pneumoniae		Prophylactic vaccine for streptococcus pneumoniae	Phase I

(1) In collaboration with National Institutes of Health.

(2) In collaboration with AlphaVax.

Key Marketed Diagnostics Products

Product	Product Description
Procleix eSAS System	Semi automated modular instrument solution supporting Duplex and *Ultrio* NAT assays
Procleix TIGRIS System	Fully automated instrument solution supporting *Ultrio* NAT assays
Procleix SP System	Fully automated liquid-handling instrument for pooling and creation of archive plates
Procleix Duplex Assay	NAT assay designed to detect HIV-1, HCV through a single test
Procleix WNV Assay	First NAT assay approved by the FDA to detect West Nile virus
Procleix Ultrio Assay	First NAT assay designed to detect HIV-1, HCV and HBV in a single test
Procleix Ultrio + Assay	Our most sensitive CE Mark certified NAT assay designed to detect HIV-1, HCV and HBV in a single test

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Diagnostics Key Products in Development

Therapeutic Area	Product	Product Description	Planned filing dates/ Current phase
Blood Screening	*HAV/Parvo test*	NAT test designed to detect Hepatitis A virus and Parvo B19 virus	Discovery
	Dengue test	NAT test designed to detect the Dengue virus	Discovery
	Procleix Panther System	Fully automated mid-throughput instrument	Development
Clinical Diagnostics	*Mis-folded protein assay*	Novel technology to detect abnormal protein particles that cause several neurodegenerative diseases such as Diabetes, Alzheimer's, Parkinson's in patients	Discovery
Infectious Disease	*Hospital-associated infections*	Accurate and early pathogen detection	Discovery
Predictive Health	*Maternal/Fetal Screening*	Tests to predict and improve outcomes and therapeutic response	Discovery
Transfusion Medicine	*Bone-marrow typing*	Test to improve donor/recipient matching	Discovery

Principal Markets

The principal markets for our Vaccines and Diagnostics Division include the US and Europe. The following table sets forth the aggregate 2010 net sales of the Vaccines and Diagnostics Division by region:

Vaccines and Diagnostics	**2010 Net Sales to third parties**	
	$ millions	**%**
United States	1,184	41
Americas (except the United States)	305	10
Europe	784	27
Rest of the World	645	22
Total	**2,918**	**100**

Sales of certain vaccines, including influenza and tick borne encephalitis vaccines, are subject to seasonal variation. Sales of the majority of our other products are not subject to material changes in seasonal demand.

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Research and Development

In 2010, the Vaccines and Diagnostics Division invested $523 million ($506 million excluding amortization charges) in research and development, which amounted to 18% of the division's net sales. The Vaccines and Diagnostics Division invested $508 million ($465 million excluding impairment and amortization charges) and $360 million ($327 million excluding amortization charges) in research and development in 2009 and 2008 respectively.

While research and development costs for vaccines traditionally have not been as high as for pharmaceuticals, a robust clinical program including Phase I to Phase III must be performed by the manufacturer to obtain a license for commercialization. See " Pharmaceuticals Compounds in Development" and " Pharmaceuticals Research and Development." Similarly, our diagnostics blood screening research and development efforts, which we perform in collaboration with Gen-Probe, Inc., and our clinical diagnostic research and development efforts, which we may perform in collaboration with other partners, require extensive and expensive research and testing of potential products. At each of these steps, there is a substantial risk that we will not achieve our goals. In such an event, we may be required to abandon a product in which we have made a substantial investment.

Production

We manufacture our vaccines products at six facilities in Europe, the US and Asia. Our principal production facilities are located in Liverpool, UK; Marburg, Germany; Siena and Rosia, Italy, Ankleshwar, India, and Holly Springs, North Carolina. We continue to invest and upgrade our existing sites to ensure that previously initiated remediation efforts are completed and meet quality standards. In addition, certain conjugation and chemistry activities for vaccines are performed at our Emeryville, California site. At our Emeryville site, we also manufacture antigens and associated conjugates as both intermediates and final kits in support of diagnostics and blood screening industries around the world. Companies in the serology market, including our long-standing joint partner Ortho Clinical Diagnostics, purchase these products for use in their blood testing assays. Our NAT blood screening products are manufactured for us by Gen-Probe, Inc., an outside supplier.

Each year new seasonal influenza vaccines need to be produced in order to induce effective protection against the current circulating strains of the virus, which can change from year to year. Global surveillance of influenza viruses is conducted throughout the year by the World Health Organization (WHO) Influenza Surveillance Network, which provides information on currently circulating strains and identifies the appropriate strains to be included in next season's influenza vaccine. Each year, the EMA and the US Centers for Disease Control then confirm the vaccine composition for the coming season for the northern hemisphere and the Australian Therapeutic Goods Administration for the southern hemisphere. There can be no guarantee that the division will succeed in producing and having approved an updated flu vaccine within the timeframes necessary to commercialize the vaccine for the applicable flu season.

The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

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Marketing and Sales

Our main Vaccines marketing and sales organizations are based in Switzerland, Germany, UK, Italy and the US. We are also seeking to expand operations in China where we are making efforts to complete our previously-announced acquisition of an 85% stake in the Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd. as well as in India and in various other European and Latin American countries. In the US, we market influenza, Japanese Encephalitis and rabies vaccines through a network of wholesalers and distributors as well as direct to key customers. Direct sales efforts are focused on public health and distributor channels, and on non-traditional channels, such as employers, chain drug headquarters and service providers.

The Diagnostics marketing and sales efforts are primarily focused on blood banks, with some marketing efforts focused on the development of new clinical diagnostics. With roughly half of worldwide blood donations not being subjected to updated viral nucleic acid screening, the company will continue to focus on increasing the practice of viral nucleic acid testing using its proprietary systems in emerging areas of the world.

Competition

The global market for products of the type sold by our Vaccines and Diagnostics Division is highly competitive, and we compete against other major international corporations with substantial financial and other resources. Competition within the industry is intense and extends across a wide range of commercial activities, including pricing, product characteristics, customer service, sales and marketing, and research and development.

There is no guarantee that any product, even with patent protection, will remain successful if another company develops a new product offering significant improvements over existing products.

Regulation

Our vaccines products are subject to essentially the same regulatory procedures as are the products of our Pharmaceuticals Division. See "Pharmaceuticals Regulation." In the US, a company seeking approval of a vaccine submits a Biologics License Application (BLA) for the vaccine, rather than an NDA. Subsequently, the BLA follows substantially the same path for approval as does an NDA. In addition, annual license applications for seasonal flu vaccines must be submitted every year.

Diagnostics products are regulated as medical devices in the US and the EU. These jurisdictions each have risk-based classification systems that determine the type of information which must be provided to the local regulators in order to obtain the right to market a product. In the US, safety and effectiveness information for Class II and III devices must be reviewed by the FDA. There are two review procedures: a Pre-Market Approval (PMA) and a Pre-Market Notification (510(k)) submission. Under a PMA, the manufacturer must submit to the FDA supporting evidence sufficient to prove the safety and effectiveness of the device. The FDA review of a PMA usually takes 180 days from the date of filing of the application. Under Pre-Market Notification (510(k)), the manufacturer submits notification to the FDA that it intends to commence marketing the product, with data that establishes the product as substantially equivalent to another product already on the market. The FDA usually determines whether the device is substantially equivalent within 90 days. For specific diagnostics products that are sold into blood banks, or sold for diagnosis of HIV-1 infection, applications are submitted for review by the FDA's Center for Biologics Evaluation and Research (CBER). Under such review, the product is considered a biologic until such time as approval is received, at which time the product becomes a medical device. For products used specifically for screening of blood donors, or biologic reagents sold for further manufacturing use, the medical device is subject to Licensure by CBER. The submission for this purpose follows the same requirements as Vaccines; a Biologic License Application is submitted to CBER. CBER usually takes 240 days to review a BLA.

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In the EU, the CE marking is required for all medical devices sold. By affixing the CE marking, the manufacturer certifies that a product is in compliance with provisions of the EU's Medical Device Directive. Diagnostics products are specifically covered by the EU In Vitro Diagnostic (IVD) Directive. Under that Directive, certain products are subject to review and prior approval by a "notified body." Others are subject to a self-certification process by the manufacturer, which requires the manufacturer to confirm that the product performs to appropriate standards. This allows the manufacturer to issue a Declaration of Conformity and to notify competent authorities in the EU that the manufacturer intends to market the product. In order to comply with European regulations, our Vaccines and Diagnostics Division maintains a full Quality Assurance system and is subject to routine auditing by a certified third party (a "notified body") to ensure that this quality system is in compliance with the requirements of the EU's Medical Device Directive as well as the requirements of the ISO quality systems' standard ISO 13485.

Intellectual Property

We attach great importance to patents, trademarks, and know-how in order to protect our investment in research and development, manufacturing and marketing. It is our policy to seek the broadest possible protection for significant product developments in all major markets. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen.

The protection offered by such patents extends for varying periods depending on the legal life of patents in the various countries. The protection afforded, which may also vary from country to country, depends upon the type of patent and its scope of coverage. We monitor our competitors and vigorously challenge infringements of our intellectual property.

SANDOZ

Our Sandoz Division is a world leader in developing, manufacturing and marketing generic pharmaceutical products, follow-on biopharmaceutical products and drug substances that are not protected by valid and enforceable third-party patents. As of December 31, 2010, affiliates of the Sandoz Division employed 23,536 full-time equivalents associates worldwide in more than 130 countries. In 2010, our Sandoz Division achieved consolidated net sales of $8.5 billion, 17% of the Group's total net sales.

The Sandoz Division is active in Retail Generics, Anti-Infectives, Biopharmaceuticals and Oncology Injectables (following the acquisition of EBEWE Pharma, completed in September 2009). In Retail Generics, we develop, manufacture and market active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, we develop and manufacture active pharmaceutical ingredients and intermediates mainly antibiotics for use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, we develop, manufacture and market protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sell biotech manufacturing services to other companies. In Oncology Injectables, we develop, manufacture and market cytotoxic products for the hospital market.

The worldwide market for generic pharmaceutical products has been growing by about 10% annually and is expected by industry analysts to continue at nearly that rate through 2015, fueled primarily by the growing health needs of an aging population, opportunities created through patent expiries, increasing access to healthcare and pressures to contain healthcare costs. According to IMS Health, Sandoz is the No. 2 company in worldwide generic sales and is positioned as a global leader in Retail Generics. Sandoz Biopharmaceuticals has emerged as the leading global player in biosimilars, with three marketed medicines, and a pipeline of eight to ten molecules, including monoclonal antibodies, at various stages of development. In addition, Sandoz remains one of the leading manufacturers of antibiotics worldwide.

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The acquisition of EBEWE Pharma in 2009 positioned Sandoz among the top four global players in oncology injectables, according to IMS Health.

Sandoz has three strategic priorities: to be first-to-market with our products as originators' substance patents expire or become unenforceable, to be cost competitive by leveraging our economies of scale in development and production, and to differentiate Sandoz based on our extensive global reach and our advanced technical expertise in the development, manufacturing and marketing of differentiated generics and biosimilars.

In 2010, Retail Generics benefited from the first-to-market US launch of Sandoz's generic enoxaparin sodium (Lovenox®) the largest-ever launch in the US of a generic hospital medication. Other key US launches included metaxalone (Skelaxin®), and the authorized generics of losartan potassium and losartan potassium-hydrochlorothiazide (Cozaar® and Hyzaar®), as well as gemcitabine HCI injection (Gemzar®). Key product launches in various European countries included losartan/losartan HCT, lercanidipine (Corifeo®/Zanidip®), tacrolimus (Prograf®), and *Docetaxel* (Taxotere®). Anti-Infectives experienced continued volume growth, with key products globally including amoxicillin/clavulanic acid, ceftriaxone, azithromycin and cefdinir, as well as the exclusive US launch of amoxicillin-clavulanic acid ER (Augmentin®).

In Biopharmaceuticals, Sandoz continued to roll out important follow-on products and to drive its contract manufacturing base business. Recombinant growth hormone *Omnitrope,* which was first launched in the EU and US in 2006 and 2007 respectively, received FDA approval for several additional indications, and was launched in 2010 in countries including Taiwan, Argentina, and the Czech Republic. High-dosage oncology formulations of anemia medicine *Binocrit* were rolled out in 2010 in countries including France, Spain, Italy and the UK, complementing the base nephrology business. Neutropenia medication *Zarzio,* which was approved EU-wide in 2009, was rolled out in further countries including Italy, Belgium, Sweden and Switzerland.

In October 2010, just one year after Sandoz completed the acquisition of Austrian-based oncology injectables specialist EBEWE Pharma, Sandoz announced the successful completion of the integration process and the launch of a new global brand, Sandoz Oncology Injectables. The new business is now fully organized on a global basis and offers customers a broad differentiated portfolio of more than 25 marketed products plus a strong pipeline for future growth.

In April 2010, Sandoz announced a definitive agreement to acquire Oriel Therapeutics, a privately held US pharmaceuticals company. The deal was finalized in June, and Oriel has been integrated as a separate development unit within Sandoz. Oriel focuses on developing respiratory products with known pathways as generic alternatives to patented drugs for asthma and chronic obstructive pulmonary disease (COPD). Regulatory approvals of these medicines would enable Sandoz to increase access to affordable, high-quality therapeutic alternatives for these increasingly prevalent medicines. The acquisition also offers Sandoz access to Oriel's novel FreePath drug delivery technology, as well as its proprietary Solis disposable dry powder inhaler.

Recently Launched Products

Sandoz launched a number of important products in 2010, including:

- Enoxaparin sodium, a generic version of the best-selling anti-thrombotic Lovenox®, was launched as the sole generic in the US.
- Metaxalone, a generic version of muscle relaxant Skelaxin®, was launched with generic market exclusivity in the US.
- Losartan potassium and losartan potassium-hydrochlorothiazide (HCT), authorized generic versions of Cozaar® and Hyzaar®, were launched in the US; "early entry" versions of both products were also introduced in Germany, followed by generic versions in other European markets.

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Amoxicillin-clavulanic acid ER, a generic version of broad-spectrum antibiotic Augmentin®, was launched with market exclusivity in the US.

Tacrolimus, a generic version of the kidney and liver transplantation medicine Prograf®, was launched in several European markets including Germany, Portugal, Netherlands, Austria, Belgium, Switzerland, and the UK.

Lercanidipine, a generic version of Corifeo®/Zanidip®, was launched in European markets including France, Italy, Spain, the Netherlands, Austria, Belgium, and Portugal.

Docetaxel, a generic version of cytotoxic Taxotere®, was launched in several European countries as well as in New Zealand.

Omnitrope, a follow-on version of the recombinant human growth hormone Somatropin®, was launched in Taiwan, Argentina, and the Czech Republic.

Binocrit, a follow-on version of the recombinant human protein Eprex®/Erypo®, was launched in higher dosage pre-filled syringes for patients suffering from chemotherapy-related anemia in countries including France, Spain, Italy and the UK.

Zarzio, a follow-on version of the recombinant human granulocyte colony-stimulating factor filgrastim (G-CSF), was launched in countries including Italy, Belgium, Sweden, and Switzerland.

Key Marketed Products

The following tables describe key marketed products for Sandoz (availability varies by market):

Retail Generics

Product	Originator Drug	Description
Acetylcystine	Fluimucil®	Respiratory System
Amlodipine/Benazepril	Lotrel®	Hypertension
Amoxicillin/clavulanic acid	Augmentin®	Anti-infective
Enoxaparin sodium injection	Lovenox®	Anti-coagulant
Fentanyl	Duragesic®	Analgesic
Lansoprazole	Prevacid®	Proton pump inhibitor
Losartan/Losartan HCT	Cozaar®/Hyzaar®	Hypertension
Omeprazole	Prilosec®	Ulcer and heartburn treatment
Simvastatin	Zocor®	Cholesterol lowering treatment
Tacrolimus	Prograf®	Transplantation

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Anti-Infectives

Active Ingredients	Description
Oral and sterile penicillins	Anti-infectives
Oral and sterile cefalosporins	Anti-infectives
Clavulanic acid and mixtures with clavulanic acid	ß-lactam inhibitors
Classical and semisynthetic erythromycins	Anti-infectives
Tiamuline	Anti-infectives
Lovastatin, Simvastatin, Pravastatin	Statins
Vancomycin	Anti-infectives
Thyroxine	Hormones

Intermediates	Description
Various cephalosporin intermediates	Anti-infectives
Erythromycin base	Anti-infectives
Various crude compounds produced by fermentation	Cyclosporine, ascomysine, rapamycine, mycophenolic acid, etc.

Biopharmaceuticals

Product	Originator Drug	Description
Omnitrope	Somatropin®	Recombinant human growth hormone
Binocrit and *Epoetin alfa Hexal*	Eprex®/Erypo®	Recombinant protein used for anemia
Zarzio and *Filgrastim Hexal*	Neupogen®	Recombinant protein used in oncology

Oncology Injectables

Product	Originator Drug	Description
Carboplatin	Paraplatin®	Ovarian, lung, head-neck and cervix cancer
Epirubicin	Farmorubicin®	Breast, lung, ovarian, gastric and bladder cancer, and others
Gemcitabine	Gemzar®	Bladder, pancreas, lung, ovarian, and breast cancer
Methotrexate	Folex®, Rheumatrex®	Arthritis; breast, lung, cervix and ovarian cancer, and others
Oxaliplatin	Eloxatin®	Colorectal and colon cancer
Paclitaxel	Taxol®	Breast, lung and ovarian cancer, Kaposi sarcoma
Docetaxel	Taxotere®	Breast, ovarian and non-small cell lung cancer

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Principal Markets

The two largest generics markets in the world the US and Europe are the principal markets for Sandoz, although we are active in more than 130 countries. This table sets forth aggregate 2010 net sales by region:

Sandoz	2010 Net Sales to third parties	
	$ millions	%
United States	2,630	31
Americas (except the United States)	583	7
Europe	4,273	50
Rest of the World	1,032	12
Total	**8,518**	**100**

Many Sandoz products are used for chronic conditions that require patients to consume the product over long periods of time, from months to years. Sales of our anti-infective products are subject to seasonal variation. Sales of the vast majority of our other products are not subject to material changes in seasonal demand.

Production

We manufacture our Sandoz products at more than 30 production facilities around the world. Among these, our principal production facilities are located in Barleben, Germany; Kundl and Unterach, Austria; Menges and Ljubljana, Slovenia; Broomfield, Colorado; Wilson, North Carolina; Stryków, Poland; Kalwe and Mahad, India; Buenos Aires, Argentina; Boucherville, Canada; Cambé and Taboão, Brazil; Gebze and Syntex, Turkey. In December 2010, Novartis announced the signing of a Memorandum of Understanding, confirming its intention to build a new full-scale pharmaceutical manufacturing plant in St. Petersburg, Russia. Construction is scheduled to start in 2011 and the plant is expected to produce approximately 1.5 billion units per year (oral solid dosage forms), of which the majority is anticipated to be generic products. Total Novartis Group investment in the plant is expected to be approximately $140 million.

Active pharmaceutical ingredients are manufactured in our own facilities or purchased from third-party suppliers. We maintain state-of-the-art and cost-competitive processes within our own production network. Those processes include fermentation, chemical syntheses and precipitation processes, such as sterile processing. Many follow-on biologics are manufactured using recombinant DNA derived technology by which a gene is introduced into a host cell, which then produces the human protein. This manufacturing process requires sophisticated technical expertise. We are constantly working to improve current and to develop new manufacturing processes.

Where possible, our policy is to maintain multiple supply sources so that the business is not dependent on a single or limited number of suppliers, and competitive material sourcing can be assured. However, our ability to do so may at times be limited by regulatory or other requirements. We monitor market developments that could have an adverse effect on the supply of essential active pharmaceutical ingredients. All active pharmaceutical ingredients we purchase must comply with high quality standards.

We obtain agricultural, chemical and other raw materials from suppliers around the world. The raw materials we purchase are generally subject to market price fluctuations. We seek to avoid these fluctuations, where possible, through the use of long-term supply contracts. We also proactively monitor

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markets and developments that could have an adverse effect on the supply of essential materials. All raw materials we purchase must comply with our quality standards.

The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

The Retail Generics business of Sandoz sells a broad portfolio of generic pharmaceutical products to wholesalers, pharmacies, hospitals and other healthcare outlets. Sandoz adapts its marketing and sales approach to local decision making processes, depending on the structure of the market in each country.

In response to rising healthcare costs, many governments and private medical care providers, such as health maintenance organizations, have instituted reimbursement schemes that favor the substitution of generic products for bioequivalent branded pharmaceutical products. In the US, statutes have been enacted by virtually all states that permit or require pharmacists to substitute a less expensive generic product for the brand-name version of a drug that has been prescribed to a patient. Generic use is growing in Europe, but penetration rates in many EU countries are below those in the US because reimbursement practices do not create efficient incentives for substitution. Legislative or regulatory changes can have a significant impact on our business in a country. In Germany, for example, the generic market is in transition as healthcare reforms increasingly shift decision making from physicians to insurance funds.

Our Anti-Infectives business supplies Retail Generics and the pharmaceutical industry worldwide with active pharmaceutical ingredients and intermediates, mainly in the field of antibiotics.

Our Biopharmaceuticals business operates in an emerging business environment. Regulatory pathways for approving biosimilar products are either new or still in development, and policies have not yet been fully defined or implemented for the automatic substitution and reimbursement of biosimilars in many markets, including the US. As a result, in many of these markets, including the US, our biosimilar products must be marketed as branded competitors to the originator products.

Our Oncology Injectables business supplies hospitals worldwide with cytotoxic products for use in oncology treatment.

Competition

The market for generic products is characterized by increasing demand for high-quality pharmaceuticals that can be produced at lower costs due to comparatively minimal initial research and development investments. Increasing pressure on healthcare expenditures and numerous patent and data exclusivity period expirations have created a favorable market environment for the generics industry. This positive market trend, however, brings increased competition among the companies selling generic pharmaceutical products, leading to ongoing price pressure on generic pharmaceuticals.

In addition, research-based pharmaceutical companies have responded to increased competition from generic products by licensing their branded products to generic companies (the so-called "authorized generic"). By doing so, research-based pharmaceutical companies participate in the conversion of their branded product once generic conversion begins. Consequently, generic companies that were not in a position to compete on a specific product are allowed to enter the generic market using the innovator's product. In the US, the authorized generic is not subject to the US Hatch-Waxman Act rules regarding

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exclusivity (See " Regulation"). The company that launches an authorized generic typically enters the market at the same time as the generic exclusivity holder. This tends to reduce the value of the exclusivity for the company that invested in creating the first generic. Furthermore, certain research-based companies continually seek new ways to protect their market franchise and to decrease the impact of generic competition. For example, some research-based pharmaceutical companies have reacted to generic competition by decreasing the prices of their branded product, thus seeking to limit the profit that the generic companies can earn on the competing generic product.

Development and Registration

Before a generic pharmaceutical may be marketed, intensive technical as well as clinical development work must be performed to demonstrate, in bio-availability studies, the bio-equivalency of the generic product to the reference product. Nevertheless, research and development costs associated with generic pharmaceuticals are much lower than those of the originator pharmaceuticals, as no clinical trials on dose finding and efficacy must be performed by the generic company. As a result, pharmaceutical products for which the patent and data exclusivity period has expired can be offered for sale at prices often much lower than those of products protected by patents and data exclusivity, which must recoup substantial basic research and development costs through higher prices over the life of the product's patent and data exclusivity period.

For follow-on biologic products, the regulatory pathways for approving such products are still in development, or pending final implementation, in many countries. However, at least for certain biopharmaceutical products, a certain number of carefully targeted clinical trials in patients to determine safety and efficacy do appear to be required. Sandoz has successfully registered and launched the first biosimilar product in Europe, the US, Canada and Japan, as well as two further products in Europe.

Currently, the affiliates of the Sandoz Division employ more than 2,800 Development and Registration staff who explore alternative routes for the manufacture of known compounds and develop innovative dosage forms of well-established medicines. These associates are based worldwide, including major facilities in Holzkirchen and Rudolstadt, Germany; Kundl, Schaftenau and Unterach, Austria; Menges and Ljubljana, Slovenia; Kalwe, India; Boucherville, Canada; Broomfield, Colorado and East Hanover, New Jersey (transferred from Wilson, NC, and formally opened in June 2010); and Cambé, Brazil. As of end 2010, Sandoz has terminated local and global development activities in Buenos Aires, Argentina, in the wake of the successful integration of EBEWE Pharma into Sandoz and the creation of a new global Center of Excellence for Oncology Injectables (including development activities), based at Unterach, Austria.

In 2010, Sandoz invested $658 million ($618 million excluding impairment and amortization charges) in product development, which amounted to 8% of the division's net sales. Sandoz invested $613 million ($603 million excluding impairment and amortization charges) and $667 million ($643 million excluding impairment and amortization charges) in product development in 2009 and 2008 respectively.

Regulation

The Hatch-Waxman Act in the US (and similar legislation in the EU and in other countries) eliminated the requirement that generic pharmaceutical manufacturers repeat the extensive clinical trials required for originator products, so long as the generic version could be shown in bioavailability studies to be of identical quality and purity, and to be biologically equivalent to the reference product.

In the US, the decision whether a generic pharmaceutical is bioequivalent to the original branded product is made by the FDA based on an Abbreviated New Drug Application (ANDA) filed by the generic product's manufacturer. The process typically takes approximately 18 months from the filing of the ANDA until FDA approval. However, delays can occur if issues arise regarding the interpretation of bioequivalence study data, labeling requirements for the generic product, or qualifying the supply of active

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ingredients. In addition, the Hatch-Waxman Act requires a generic manufacturer to certify in certain situations that the generic product does not infringe on any current applicable patents on the product held by the innovator, or to certify that such patents are invalid or the product is non-infringing. This certification often results in a patent infringement lawsuit being brought by the patent holder against the generic company. In the event of such a lawsuit, the Hatch-Waxman Act imposes an automatic 30-month delay in the approval of the generic product in order to allow the parties to resolve the intellectual property issues. For generic applicants who are the first to file their ANDA containing a certification claiming non-infringement or patent invalidity, the Hatch- Waxman Act provides those applicants with 180 days of marketing exclusivity to recoup the expense of challenging the innovator patents. However, generic applicants must launch their products within certain time frames or risk losing the marketing exclusivity that they had gained through being a first-to-file applicant.

In the EU, decisions on the granting of a marketing authorization are made either by the EMA under the Centralized Procedure, or by a single Member State under the national or decentralized procedure. See " Pharmaceuticals Regulation European Union." Companies may submit Abridged Applications for approval of a generic medicinal product based upon its "essential similarity" to a medicinal product authorized and marketed in the EU following the expiration of the product's data exclusivity period. In such cases, the generic company is able to submit its Abridged Application based on the data submitted by the medicine's innovator, without the need to conduct extensive Phase III clinical trials of its own. For all products that received a marketing authorization in the EU after late 2005, the Abridged Application can be submitted throughout the EU. However, the data submitted by the innovator in support of its application for a marketing authorization for the reference product will be protected for ten years after the first grant of marketing authorization in all Member States, and can be extended for an additional year if a further innovative indication has been authorized for that product, based on pre-clinical and clinical trials filed by the innovator that show a significant clinical benefit in comparison to the existing therapies.

Intellectual Property

Wherever possible, our generic products are protected by our own patents. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents also may cover particular uses of a product, such as its use to treat a particular disease or its dosage regimen. It is our policy to seek the broadest possible protection for significant product developments in all major markets.

We take all reasonable steps to ensure that our generic products do not infringe valid intellectual property rights held by others. Nevertheless, originating companies commonly assert patent and other intellectual property rights in an effort to delay or prevent the launch of competing generic products. As a result, we can become involved in significant litigation regarding our generic products. If we are unsuccessful in defending these suits, we could be subject to injunctions preventing us from selling our generic products, or to damages, which may be substantial.

CONSUMER HEALTH

Our Consumer Health Division is a world leader in the research, development, manufacturing and marketing of a wide range of competitively differentiated products that restore, maintain or improve the health and well-being of consumers, as well as pets and livestock. The business of Consumer Health is conducted by a number of affiliated companies throughout the world. The Consumer Health Division consists of the following three business units:

OTC (over-the-counter medicines)

Animal Health

CIBA Vision

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Each business unit has its own research, development, manufacturing, distribution and selling capabilities. However, none are material enough to the Group to be separately disclosed as a segment. As of December 31, 2010, the affiliates of our Consumer Health Division employed 13,136 full-time equivalent associates worldwide. In 2010, the affiliates of our Consumer Health Division achieved consolidated net sales of $6.2 billion, which represented 12% of the Group's total net sales.

Our Consumer Health Division places considerable emphasis on the development of strong, consumer-oriented and trustworthy brands. To deliver accelerated sales growth and to achieve leadership positions in the fields in which we compete, our Consumer Health Division seeks to give voice to the consumer and to determine the needs and desires of consumers.

In the dynamic world of consumer healthcare, consumers are becoming more knowledgeable about health and the benefits of self-medication. The success of each business unit depends upon its ability to anticipate and meet the needs of consumers and health professionals worldwide.

The following is a description of the three Consumer Health Division Business Units:

OTC (over-the-counter medicines) is a world leader in offering products for the treatment and prevention of common medical conditions and ailments, to enhance people's overall health and well-being. The business of OTC is conducted by a number of affiliated companies in more than 50 countries. The OTC business focuses on a group of strategic global brands in leading product categories that include treatments for cough/cold/respiratory (*Triaminic, Otrivin, TheraFlu/NeoCitran*), pain relief (*Excedrin*, *Voltaren*), smoking cessation (*Habitrol/Nicotinell*), dermatology (*Lamisil, Fenistil*), and gastrointestinal (*Benefiber, Prevacid24HR, Pantoloc Control*). *Pantoloc Control* (pantoprazole 20 mg) was launched across 14 European markets in May 2010 after having been centrally approved in June 2009 by the EMA for the treatment of frequent heartburn. *Pantoloc Control* is a strategic addition to the Novartis OTC product portfolio, and we expect that it will drive strong growth of the OTC Digestive Health category.

Animal Health offers products and services to save, prolong and improve animal lives, focusing on both companion and farm animals (including cultivated fish). The business of Animal Health is conducted by affiliated companies in approximately 40 countries. Animal Health has a dedicated research and development team that benefits from synergies with other Novartis businesses, most notably research in the Pharmaceuticals Division. Key products for companion animals include *Atopica* (atopic dermatitis management), *Deramaxx* (pain relief) and *Sentinel/Milbemax/Interceptor* (intestinal parasite control and heartworm prevention), while leading farm animal products include the therapeutic anti-infective *Denagard*, an effective broad-spectrum antimicrobial used to treat and control bacteria in swine, *CLiK,* an effective insect growth regulator used to control blowfly strike in sheep, and cattle vaccines used to prevent respiratory and reproductive diseases in beef and dairy cattle. In 2009, Animal Health launched *Zolvix*, a sheep drench representing the first new sheep anthelmintic class in 25 years, and *Onsior*, the first coxib class NSAID (non-steroidal anti-infammatory drug) to be approved for both cats and dogs. Aquaculture products include vaccines and treatments mainly used in salmon farming.

CIBA Vision is a global leader in the research, development, and manufacturing of contact lenses and lens care products. The business of CIBA Vision is conducted by affiliated companies in nearly 40 countries. CIBA Vision is committed to the research and development of innovative products, lens technology and services. R&D efforts have produced lenses such as the *Air Optix* family of monthly silicone hydrogel lenses, and *Dailies* daily disposable lenses. CIBA Vision is also the world's leading provider of color contact lenses to change and enhance eye color through products such as *FreshLook* lenses. In lens care, CIBA Vision has developed many innovative products, particularly multi-purpose solutions in one bottle such as *Aquify/Solocare Aqua* and the *Clear Care/Aosept Plus* peroxide system. In 2010, the European Commission and Canadian Authorities gave Novartis permission to acquire 77% majority ownership of Alcon subject to certain conditions,

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including the divestiture of the rights to the CIBA Vision lens care products *Solocare Aqua* and *Solocare Soft* in Canada and in the European Economic Area. In addition, the European Commission's permission required the divestiture of the CIBA Vision product *Aquify* Comfort Drops in certain countries. Novartis has commenced the process of divesting its rights to these products.

Principal Markets

The principal markets for the Consumer Health Division are the US and Europe. The following table sets forth the aggregate 2010 net sales of the Consumer Health Division by region:

Consumer Health	**2010 Net Sales to third parties**	
	$ millions	**%**
United States	2,006	32
Americas (except the United States)	555	9
Europe	2,624	42
Rest of the World	1,019	17
Total net sales	**6,204**	**100**

Sales of our OTC Business Unit are marked by a high degree of seasonality, with our cough, cold and allergy brands significantly affected by the timing and severity of the annual cold and flu and allergy seasons. Sales of our Animal Health Business Unit's livestock segment can also fluctuate seasonally, and can be significantly affected by climatic and economic conditions, or by changing health or reproduction rates of animal populations. Sales of most of our other products are not subject to material changes in seasonal demand.

Production

OTC: Products for our OTC Business Unit are produced by the business unit's own plants, strategic third-party suppliers and other Novartis Group plants (which are predominantly owned and operated by the Pharmaceuticals Division). The primary OTC plants are located in Lincoln, Nebraska; Nyon, Switzerland; Humacao, Puerto Rico; and Jamshoro, Pakistan.

Animal Health: Approximately 80% of our production volume is manufactured by third parties and Novartis affiliates in other divisions or business units. Animal Health has production facilities of its own located around the world, with main sites in Wusi Farm, China; Dundee and Braintree, UK; Larchwood, Iowa; Charlottetown, Canada; and Huningue, France.

CIBA Vision: CIBA Vision has major production facilities in Batam, Indonesia; Duluth, Georgia; Des Plaines, Illinois; Grosswallstadt, Germany; Cidra, Puerto Rico; Singapore; Johor, Malaysia; and Mississauga, Canada.

While production practices may vary from business unit to business unit, we generally obtain our raw materials, intermediates and active ingredients from suppliers around the world. The raw materials, intermediates and active ingredients we purchase are generally subject to market price fluctuations. We seek to avoid these fluctuations, where possible, through the use of long-term supply contracts. We also proactively monitor markets and developments that could have an adverse effect on the supply of essential materials. All raw materials we purchase must comply with our quality standards.

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The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. Like our competitors, our Consumer Health Division has faced manufacturing issues, and has received Warning Letters relating to such manufacturing issues. For example, in December 2010, a CIBA Vision manufacturing facility in Cidra, Puerto Rico received a Warning Letter from the FDA, primarily as a result of questions involving the testing methods used for certain contact lenses manufactured there. As a result, CIBA Vision recalled the product. An action plan is under development and will be presented to the FDA. However, there can be no guarantee of the outcome of this matter.

In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

OTC: OTC aims to be a leading global participant in fulfilling the needs of patients and consumers for self-medication healthcare. Strong, leading brands and products, innovation led by a worldwide research and development organization, and in-house marketing and sales organizations are key strengths in pursuing this objective. We engage in general public relations activities, including media advertisements, brand websites and other direct advertisements of brands, to the extent permitted by law in each country. We distribute our products through various channels such as pharmacies, food, drug and mass retail outlets.

Animal Health: Animal Health's products are mostly prescription-only treatments for both farm and companion animals. The major distribution channel is veterinarians, either directly or through wholesalers of veterinary products. Primary marketing efforts are targeted at veterinarians using such marketing tools as targeted personal selling, printed materials, direct mail, advertisements, articles in the veterinary specialty press, and conferences and educational events for veterinarians. In addition, we engage in general public relations activities and media advertising, including brand websites and other direct advertisements of brands, to the extent permitted by law in each country.

CIBA Vision: In most countries, contact lenses are available only by prescription. CIBA Vision lenses can be purchased from eye care professionals, optical chains and large retailers, subject to country regulation. CIBA Vision's lens care products can be found in major drug, food, mass merchandising and optical retail chains globally, subject to country regulations. In addition, mail order and Internet sales of contact lenses are becoming increasingly important channels in major markets worldwide.

Competition

The global market for products of the type sold by our Consumer Health Division is highly competitive, and we compete against other major international corporations with substantial financial and other resources. Competition within the industry is intense and extends across a wide range of commercial activities, including pricing, product characteristics, customer service, sales and marketing, and research and development. Particularly in the US, our branded OTC products compete against "store brand" products that are made with the same active ingredients as ours. These products do not carry our trusted brand names, but they also do not carry the burden of the expensive advertising and marketing which helped to establish a demand for the product. As a result, the store brands may be sold at lower prices. In recent years, consumers have increasingly begun to purchase store brand OTC products instead of branded products.

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Research and Development

OTC: In OTC, the focus of research and development activities is primarily on dermatology, analgesics, cough/cold/respiratory, gastrointestinal, and cardiovascular risk reduction (through smoking cessation programs). OTC also works closely with the Pharmaceuticals Division to evaluate appropriate products that can be switched from prescription to OTC status. The development of line extensions to leverage brand equities is also of high importance. These extensions can take many forms including new flavors, new galenical forms and more consumer-friendly packaging.

Animal Health: Novartis Animal Health has dedicated research and development facilities in Switzerland, North America and Australia. The main focus for research is identification of potential new parasiticides and therapeutics in key areas of internal medicine. In addition, in the US and Canada, we devote resources to the quest for new vaccines for farm animals and cultivated fish. Also, our researchers exploit synergy with other Novartis businesses and collaborate with external partners to develop veterinary therapeutics and vaccines. Drug delivery projects, some in collaboration with external partners, concentrate on key treatment areas and aim to improve efficacy and ease of use.

CIBA Vision: CIBA Vision invests substantially in internal research and development operations, which yield new chemistries, lens designs and surfaces, and processing technologies. These resources are complemented by licensing agreements and joint research and development partnerships with third parties. For contact lenses our key focus is in: daily disposable lenses, weekly and monthly silicone hydrogel lenses and other innovative products, such as lenses for myopia control. In lens care, our development efforts focus on lens care solutions that complement silicone hydrogel contact lenses, and provide the safety, disinfecting and cleaning power needed to help maintain ocular health.

In 2010, the Consumer Health Division invested $359 million in research and development, which amounted to 6% of the division's net sales. Our Consumer Health Division invested $346 million ($345 million excluding amortization charges) and $313 million ($312 million excluding amortization charges) in research and development in 2009 and 2008 respectively.

Regulation

OTC: For OTC products, the primary regulatory process for bringing a product to market consists of preparing and filing a detailed dossier with the appropriate national or international registration authority and obtaining approval of the applicable health authority. See " Pharmaceuticals Regulation." In the US, in addition to the NDA process, which also is used to approve prescription pharmaceutical products, an OTC product may be sold if the FDA has determined that the product's active ingredient is generally recognized as safe and effective. FDA makes this determination through a regulatory process known as the OTC Drug Review. In the OTC Drug Review, the FDA has established, in a series of monographs, the conditions under which particular active ingredients may be recognized as safe and effective for OTC use. Pharmaceutical companies can market products containing these active ingredients without the necessity of filing an NDA and going through its formal approval process, so long as the company complies with the terms of the published monograph. These processes do not apply outside the US. Outside the US, countries have their own regulatory processes for approving or allowing the sale of pharmaceutical products, including prescription, OTC, and switching from prescription to OTC status. These processes vary from country to country.

Animal Health: The registration procedures for animal medicines are similar to those for human medicines. An animal drug application for product registration must be accompanied by extensive data on target animal and user safety, environmental fate and toxicology, efficacy in laboratory and clinical studies, information on manufacturing, quality control and labeling as well as on residues and food safety if applied to food-producing animals. In the US, animal health products are generally regulated by the FDA's Center for Veterinary Medicine. Certain product categories are regulated by the Environmental Protection Agency, and vaccines are under the control of the US Department of Agriculture. In the EU,

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veterinary medicinal products need marketing authorization from the competent authority of a member-state (national authorization) or from the EU Commission (community authorization) following either the Centralized Procedure, Mutual Recognition Procedure or the Decentralized Procedure. See " Pharmaceuticals Regulation."

CIBA Vision: Contact lenses and lens care products are regulated as medical devices in the US, the EU and the majority of other regulated countries. In the US, extended wear contact lenses are considered Class III devices, for which a PMA application is submitted to FDA. Daily wear lenses and lens care products are considered Class II devices for which the manufacturer must submit a Premarket Notification 510(k) application. See " Vaccines and Diagnostics Regulation."

Intellectual Property

Our Consumer Health businesses are strongly brand-oriented. As a result, we consider our trademarks to be of utmost value. Enforceable trademarks protect most of our brands in the majority of the markets where these brands are sold, and we vigorously protect these trademarks from infringement. Our most important trademarks are used in a number of countries. Local variations of these international trademarks are employed where legal or linguistic considerations require the use of an alternative.

Wherever possible our products are protected by patents. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen. It is our policy to seek the broadest possible protection for significant product developments in all major markets.

Our Consumer Health businesses also sell products which are not currently covered by patents. Some of these products have never been patent-protected and others have lost protection due to patent expiry.

In addition, see "Item 18. Financial Statements note 20" for a description of patent litigation involving the CIBA Vision Business Unit of our Consumer Health Division.

4.C Organizational Structure

See "Item 4. Information on the Company 4.A History and Development of Novartis," and "Item 4. Information on the Company 4.B Business Overview Overview."

4.D Property, Plants and Equipment

Our principal executive offices are located in Basel, Switzerland. Our divisions and business units operate through a number of affiliates having offices, research facilities and production sites throughout the world.

We generally own our facilities. However, some sites are leased under long-term leases. Some of our principal facilities are subject to mortgages and other security interests granted to secure indebtedness to certain financial institutions. We believe that our production plants and research facilities are well maintained and generally adequate to meet our needs for the foreseeable future.

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The following table sets forth our major production and research facilities. For information regarding Alcon, see Alcon's 20-F at Item 4.D.

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Major Production facilities:		
Pharmaceuticals		
Ringaskiddy, Ireland	60,000	Drug substances, intermediates
Grimsby, UK	64,000	Drug substances, intermediates
Stein, Switzerland	130,000	Steriles, ampules, vials, tablets, capsules, transdermals
Basel, Switzerland Klybeck	11,000	Drug substances, intermediates
Basel, Switzerland Schweizerhalle	26,000	Drug substances, intermediates
Basel, Switzerland St. Johann	28,000	Drug substances, intermediates, biopharmaceutical drug substance
Torre, Italy	52,000	Tablets, drug substance intermediates
Changshu, China	56,000	Drug substances, intermediates
Vacaville, California	6,300	biopharmaceutical drug substances
Suffern, NY	55,000	Tablets, capsules, transdermals, vials
Kurtkoy, Turkey	52,000	Tablets, capsules, effervescents
Horsham, UK	17,000	Tablets, capsules
Sasayama, Japan	26,000	Tablets, capsules, dry syrups, suppositories, creams, powders
Huningue, France	44,000	Suppositories, liquids, solutions, suspensions, biopharmaceutical drug substances
Cairo, Egypt	47,000	Tablets, creams, liquids, steriles

Taipi, Mexico	10,000	Tablets, creams, ointments

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Singapore	29,000	Bulk tablets
Wehr, Germany	24,000	Tablets, creams, ointments
Barbera, Spain	24,000	Tablets, capsules
Resende, Brazil	16,000	Drug substances, intermediates
Chang Ping, China	16,000	Tablets, capsules, gel
Vaccines and Diagnostics		
Holly Springs, NC	130,000	Vaccines and adjuvant
Emeryville, CA	99,000 (production and R&D facilities; includes Pharmaceuticals facilities)	Vaccines and blood testing
Siena/Rosia, Italy	97,000 (production and R&D facilities)	Vaccines
Liverpool, UK	49,000	Vaccines
Marburg, Germany	93,000 (production and R&D facilities)	Vaccines and adjuvant
Ankleshwar, India	11,000	Vaccines
Sandoz		
Taboão da Serra, Brazil	501,000	Capsules, tablets, syrups, suspensions, drop solutions
Kundl and Schaftenau, Austria	449,000 (production and R&D facilities)	Biotech products, intermediates, active drug substances, final steps (finished pharmaceuticals)
Menges, Slovenia	131,000 (production and R&D facilities)	Biotech products and active drug substances
Barleben, Germany	95,000	Broad range of finished dosage forms
Ljubljana, Slovenia	83,000 (production and R&D facilities)	Broad range of finished dosage forms
Broomfield, CO	60,000	Broad range of finished dosage forms
Kalwe, India	47,000	Broad range of finished dosage forms

Mahad, India	43,000		Active drug substances

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Gebze, Turkey	42,000	Broad range of finished dosage forms
Cambé, Brazil	32,000	Broad range of finished dosage forms
Wilson, NC	31,000	Broad range of finished dosage forms
Rudolstadt, Germany	37,000 (production and R&D facilities)	Inhalation technology, ophthalmics and nasal products
Stryków, Poland	20,000	Broad range of finished dosage forms
Kolshet, India	20,000 (production and R&D facilities)	Generic pharmaceuticals
Boucherville, Canada	14,000 (production and R&D facilities)	Injectable products
Holzkirchen, Germany	17,000 (production and R&D facilities)	Oral dispersible films, transdermal delivery systems, reservoir and matrix patches
Unterach, Austria	15,000 (production and R&D facilities)	Oncology injectables
Consumer Health		
OTC		
Lincoln, NE	46,000 (production and R&D facilities)	Tablets, liquids, creams, ointments, capsules, patches
Nyon, Switzerland	15,000 (production and R&D facilities)	Liquids and creams
Humacao, Puerto Rico	13,000	Tablets, capsules, medicated chocolates, softgels and Thin Strips
Jamshoro, Pakistan	24,000	Tablets, liquids, creams
Animal Health		
Wusi Farm, China	39,000	Insecticides, antibacterials, acaricides, powders
Larchwood, IA	13,000 (production and R&D facilities)	Veterinary immunologicals
Dundee, UK	11,000	Liquids

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Braintree, UK	6,000	Veterinary immunologicals
Huningue, France	5,000	Formulation and packaging of tablets, creams, ointments, suspensions and liquids
Charlottetown, Canada	5,000	Veterinary immunologicals for aquaculture
CIBA Vision		
Johor, Malaysia	35,000	Contact lenses
Duluth, GA	34,000	Contact lenses
Grosswallstadt, Germany	37,000	Contact lenses
Pulau Batam, Indonesia	27,000	Contact lenses
Des Plaines, IL	27,000	Contact lenses
Singapore	19,000	Contact lenses
Cidra, Puerto Rico	6,000	Contact lenses
Mississauga, Canada	15,000	Lens care products
Major Research and Development Facilities:		
Pharmaceuticals		
East Hanover, NJ	177,000	General pharmaceutical products
Basel, Switzerland St. Johann	150,000	General pharmaceutical products
Basel, Switzerland Klybeck	140,000	General pharmaceutical products
Cambridge, MA	116,000	General pharmaceutical products
Horsham, UK	38,000	Respiratory and nervous system diseases
Emeryville, CA	(included in Vaccines and Diagnostics facilities)	Oncology
Shanghai, China	5,000	Oncology

Vaccines and Diagnostics

Emeryville, CA	99,000 (production and R&D facilities; includes Pharmaceuticals facilities)	Vaccines and blood testing

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Siena/Rosia, Italy	97,000 (production and R&D facilities)	Vaccines
Marburg, Germany	45,000 (production and R&D facilities)	Vaccines
Cambridge, MA	9,000	Vaccines
Sandoz		
Kundl and Schaftenau, Austria	449,000 (production and R&D facilities)	Biotech processes, pharmaceutical technologies
Menges, Slovenia	131,000 (production and R&D facilities)	Biotech products and active drug substances
Ljubljana, Slovenia	83,000 (production and R&D facilities)	Broad range of oral sterile finished dosage forms and new delivery systems
East Hanover, NJ	6,000	Broad range of finished dosage forms
Rudolstadt, Germany	37,000 (production and R&D facilities)	Finished dosage forms for inhalation and ophthalmics
Holzkirchen, Germany	17,000 (production and R&D facilities)	Broad range of dosage forms, including implants and transdermal therapeutic systems
Boucherville, Canada	14,000 (production and R&D facilities)	Injectable and ophthalmic products
Kolshet, India	20,000 (production and R&D facilities)	Generic pharmaceuticals
Unterach, Austria	15,000 (production and R&D facilities)	Oncology injectables
Consumer Health		
OTC		
Lincoln, NE	46,400 (production and R&D facilities)	Tablets, capsules, liquids, ointments, creams and high potent compounds
Nyon, Switzerland	15,000 (production and R&D facilities)	Over-the-counter medicine products

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Thane, India	2,000 (R&D facilities)	Tablets, capsules, powders, creams, ointments, oral liquids
Animal Health		
St. Aubin, Switzerland	26,000	Parasiticides, therapeutics for companion and farm animals
Larchwood, IA	13,000 (production and R&D facilities)	Veterinary vaccines
Yarrandoo, Australia	3,000	Animal Health products
Victoria, Canada	3,000	Aquaculture vaccines
Basel, Switzerland	2,000	Animal Health products
CIBA Vision		
Duluth, GA	10,000	Vision-related medical devices
Grosswallstadt, Germany	3,000	Vision-related medical devices
Singapore	350	Vision-related medical devices

Substantial progress has been made in the long-term redevelopment of our St. Johann headquarters site in Basel, Switzerland. This project, called "Campus," was started in 2001 with the aim of transforming the site into a center of knowledge with a primary emphasis on international corporate functions and research activities. At that time, changes needed to be made to the Campus, since the site had originally been designed primarily for pharmaceuticals production, but Research and Development had come to account for a greater proportion of our activities at the site. Through December 31, 2010, the total amount paid and committed to be paid on the Campus Project was $1.9 billion. We expect that, through 2015, we will spend more than $2.6 billion on the Campus and to transfer production facilities from the Campus to other sites in the Basel region. We intend to fund these expenditures from internally developed resources.

In 2007, NIBR opened a start-up facility for our new R&D center in Shanghai, China (CNIBR). In 2008, we broke ground on Phase 1 of a new facility that was originally to be home to approximately 400 R&D scientists and approximately 400 other Pharmaceuticals Division personnel. In 2009, we announced that we would expand the scope of the site and invest $1 billion over the next five years to increase the size of CNIBR so that it would become the largest pharmaceutical research and development institute in China, and the third largest Novartis research institute worldwide. Based on a re-evaluation of the site conducted in 2010, the current Phase 1 has been extended by two buildings to fulfill the requirements for the cross-divisional Shanghai campus to house 800 offices and 400 laboratory work places. Through December 31, 2010, the total amount paid and committed to be paid on the CNIBR Project is $82 million.

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In June 2008, the Vaccines and Diagnostics Division broke ground on a new rabies and tick-borne encephalitis manufacturing facility in Marburg, Germany which is expected to require a total investment of approximately $240 million. Construction is proceeding and the facility is anticipated to open in 2012. As of December 31, 2010, the total amount paid and committed to be paid on this project was $227 million.

In November 2009, the Vaccines and Diagnostics Division opened the division's new cell culture-based influenza vaccine manufacturing site in Holly Springs, North Carolina. As of December 31, 2010, the total amount spent on the project was $444 million, net of grants reimbursed by the US government. The total investment in this new facility is expected to be least $900 million, partly supported by grants from the US government and prior investments in flu cell culture technologies at the Novartis Vaccines site in Marburg, Germany.

In September 2009, the Vaccines and Diagnostics Division set the cornerstone for a new vaccine manufacturing facility in Goiana, in the Pernambuco region of Brazil. The manufacturing plant is part of Novartis Vaccines' strategy to enter the Brazilian market, and is aligned with the government's goal to become self-sufficient in vaccine production. Our total investment in the facility is expected to be approximately $300 million. The technical start up of the facility is planned for the end of 2014. Through December 31, 2010, the total amount paid and committed to be paid on this project is $1 million.

In December 2010, Novartis announced the signing of a Memorandum of Understanding, confirming its intention to build a new full-scale pharmaceutical manufacturing plant in St. Petersburg, Russia. Construction is scheduled to start in 2011 and the plant is expected to produce approximately 1.5 billion units per year (oral solid dosage forms), of which the majority is anticipated to be generic products. Total Novartis Group investment in the plant is expected to be approximately $140 million.

Environmental Matters

We integrate core values of environmental protection into our business strategy to add value to the business, manage risk and enhance our reputation.

We are subject to laws and regulations concerning the environment, safety matters, regulation of chemicals and product safety in the countries where we manufacture and sell our products or otherwise operate our business. These requirements include regulation of the handling, manufacture, transportation, use and disposal of materials, including the discharge of pollutants into the environment. In the normal course of our business, we are exposed to risks relating to possible releases of hazardous substances into the environment which could cause environmental or property damage or personal injuries, and which could require remediation of contaminated soil and groundwater. Under certain laws, we may be required to remediate contamination at third party sites, or at certain of our properties regardless of whether the contamination was caused by us, or by previous occupants of the property.

See also "Item 3. Key Information Risk Factors Environmental liabilities may impact our results of operations" and "Item 18. Financial Statements note 20."

Item 4A. Unresolved Staff Comments

Not applicable

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Item 5. Operating and Financial Review and Prospects

5.A Operating Results

This operating and financial review should be read together with the Group's consolidated financial statements in this Form 20-F which have been prepared in accordance with International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board (IASB).

OVERVIEW

Novartis provides healthcare solutions that address the evolving needs of patients and societies worldwide. Our portfolio includes innovative medicines, preventive vaccines and diagnostic tools, generic pharmaceuticals and consumer health products. Novartis is the only company to have leadership positions in each of these areas.

The Group's businesses are organized in four global operating divisions:

Pharmaceuticals: Innovative patent-protected prescription medicines

Vaccines and Diagnostics: Human vaccines and blood-testing diagnostics

Sandoz: Generic pharmaceuticals

Consumer Health: OTC (over-the-counter medicines), Animal Health and CIBA Vision (contact lenses and lens-care products)

In addition, the Group's healthcare portfolio is complemented by its 77% ownership of Alcon, Inc. (Alcon), which discovers and develops innovative eye care products to improve the quality of life by helping people see better. On December 15, 2010, we announced that we had entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to certain approvals and conditions. The merger is currently expected to be completed during the first half of 2011. Following the expected successful completion of the merger, Alcon is planned to be established as a new Novartis division that will include CIBA Vision and selected ophthalmic medicines.

Novartis has leadership positions in each of these businesses, giving us the capacity to address customer and patient needs across segments of the healthcare marketplace. We believe that our ability to innovate in all these segments will allow us to tailor our portfolio in response to market opportunities, and will enable Novartis to continue as an industry leader.

Headquartered in Basel, Switzerland, the Group employed approximately 119,000 full-time equivalent associates as of December 31, 2010 (including Alcon), with operations in more than 140 countries around the world.

FACTORS AFFECTING RESULTS OF OPERATIONS

A number of key factors influence the Group's results of operations and the development of our businesses.

The fundamentals of the healthcare industry remain robust due to long-term demographic and socioeconomic trends worldwide. Both in industrialized countries and emerging markets, the aging of the population, together with sedentary lifestyles and poor nutrition, are producing a rising incidence of chronic diseases. These and other factors, including greater demand for medical care in emerging markets, are prompting greater use of medicines and other healthcare products. Consistent investments in innovation and advancing technologies also are supporting the development of new medicines to better treat many diseases.

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At the same time, other factors have created a business environment that has increased risks. The growing burden of healthcare costs as a percentage of Gross Domestic Product (GDP) in many countries has led governments and payors to focus on controlling spending ever more tightly, including through price reductions on our products and greater use of generic drugs. In addition, greater emphasis on safety by government regulators has made securing approvals for new drugs increasingly difficult.

We believe that Novartis is strategically well-positioned to operate successfully in this evolving landscape. We expect that our broad, focused portfolio, our capacity to innovate resulting in a rich pipeline of new medicines, and our established presence across regions should enable us to grow and change along with the healthcare marketplace.

Fundamental Drivers Remain Strong

Long-term trends in the composition and behavior of the worldwide population are fueling access to and demand for healthcare. The global population is becoming older, rapid economic development in the emerging markets is fueling demand for greater healthcare as lifestyles are becoming less active, and chronic diseases are becoming increasingly common. In addition, scientific advances continue to open new frontiers in patient treatment, creating major opportunities for improved care. These trends are expected to sustain steady growth in the healthcare market overall in the coming years, and to drive accelerating growth in key segments.

An Aging Global Population

Scientific advances in treating diseases and increased access to healthcare worldwide have enabled people across the globe to enjoy longer and healthier lives. The rise in life expectancy is coincident with a decline in birth rates, increasing the proportion of the elderly around the world. Over the next decade, there is expected to be a 75% increase in the number of people over the age of 60 and by 2040, there are expected to be twice as many people in the developed world over the age of 60 as there will be under 15. The proportion of the elderly is growing even faster in the developing world; according to the United Nations, in China the ratio of people over 60 to the rest of the population is projected to rise by more than 15% annually until 2040.

As the global population ages, there will continue to be an accelerating need for treatments for the diseases and conditions that disproportionately afflict the elderly. Novartis has many such products in its portfolio, including innovative offerings for the treatment of cancer, neurodegenerative diseases, ophthalmological diseases, and cardiovascular conditions.

Growth of Emerging Markets

The growing prosperity of the developing world is expected to accelerate in the coming years. It is estimated that by 2030 emerging markets will account for 60% of global GDP. This economic growth is greatly expanding access to healthcare in these geographies. In India, for example, rising income is fueling the purchase of insurance coverage, and it is estimated that approximately 220 million people will have coverage by 2015. Further, economic studies have shown that once a country's GDP reaches a certain level, its healthcare spending usually accelerates. IMS Health, a leading provider of industry data, estimates that key emerging healthcare markets including markets such as Brazil, China, India, Mexico, Russia, South Korea and Turkey will grow 14% to 17% per year through 2014, while developed markets will likely grow only 3% to 6% over the same period. According to IMS Health, by 2013, China is expected to become the third largest prescription drug market behind the United States and Japan. The healthcare needs of emerging markets are also evolving to more closely match their counterparts in the developed world. Cancer is now a bigger killer in developing countries than tuberculosis, malaria and AIDS combined, and chronic diseases are increasingly replacing infectious diseases as the most urgent healthcare issue.

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In order to meet the healthcare needs of their citizens, many governments of developing countries are significantly increasing their healthcare spending. For instance, in 2009, 70% of China's 1.3 billion people were uninsured. In response, the Chinese government launched an ambitious, $124 billion effort to provide insurance coverage to approximately 90% of its population by 2011. The Russian government recently pledged $10 billion to reform its healthcare system, and Pharmexpert, a leading Russian market research firm, forecasts that if current trends continue, the Russian pharmaceutical industry/market will exceed $60 billion by the end of the decade.

At a time of slowing pharmaceutical sales growth in many industrialized countries, this expansion in many emerging markets has led to higher sales growth rates and an increasing contribution to the industry's global performance. The recent government investments in healthcare in key emerging markets can be expected to increase the healthcare industry's opportunities in such markets. As a result we expect that, in the long term, success in our industry will increasingly depend on the ability to meet not only the needs of patients in developed markets, but also those of patients in emerging markets all over the world.

Many of these emerging markets have little, if any, distinction between pharmaceuticals, OTC and generic products. Given the Group's portfolio, Novartis has an advantage in such markets. We have the ability to offer a broad spectrum of medicines to treat various diseases and we have launched initiatives to take better advantage of growth opportunities. As a result, emerging markets and other markets excluding the US, Europe and Japan accounted for approximately 25% of Group net sales in 2010, and they are expected to make increasingly significant contributions to future results of operations.

Lifestyle Changes Boost Prevalence of Chronic Illnesses

The global healthcare community has had success over the last decade reducing the rates of infectious diseases such as malaria and tuberculosis. Increasingly, chronic diseases are being identified as a key threat to global health. As a result of the aging of the global population, increased rates of obesity, and habits such as cigarette smoking, chronic diseases including cardiovascular disease, diabetes, glaucoma and chronic respiratory diseases now account for 60% of deaths around the world. Chronic obstructive pulmonary disease (COPD) alone affects more than 200 million people worldwide, and is projected to become the world's third-leading cause of death by the end of this decade.

Once considered a problem only in wealthy countries, due to economic growth and shifting nutritional habits, the prevalence of people who are overweight or are obese is dramatically increasing in low- and middle-income countries, as reported by the World Health Organization (WHO) in a 2006 study. In fact, there are now more obese people in the world than there are malnourished people, and the WHO ranks obesity as the world's largest public health problem. Obesity rates are rising among both children and adults, in the developed world and in developing economies. One study conducted by Tulane University in the United States estimated that by 2030, the majority of the world's population will be overweight or obese. Obesity and inactive lifestyles are important risk factors for diabetes, cardiovascular conditions and other serious diseases, including cancer. Novartis offers many products to help address the needs of patients with these diseases and other chronic diseases, and plans to continue to make significant investments in new treatments to address this growing health threat.

Scientific Advances Opening New Opportunities for Targeted Therapies

Ongoing developments in technology and advances in scientific understanding, particularly around the human genome, are laying the foundation for the creation of new treatments for medical conditions for which current treatment options are inadequate or non-existent. Further, we are gaining a greater capability to identify the specific biological factors, called "biomarkers," that indicate whether or not a given drug will be effective for a particular patient. It is estimated that up to 95% of the variability in drug response may be due to genetic differences. Effectively pairing treatments and genetic biomarkers has tremendous potential both in terms of patient health and healthcare savings.

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The science of biomarkers is just one element of a larger industry trend towards what is called "personalized medicine." The emphasis of personalized medicine is on finding the most appropriate treatment for an individual patient. Personalized medicine is expected to be a major growth driver for the industry, with the market expected to quadruple in size over the next five years, growing to approximately $160 billion.

The principle of "following the science" forms the basis of the Novartis approach to research and development. We employ state-of-the-art technology in order to achieve an understanding of the mechanism of diseases within the body, and then use this understanding as the basis for the development of targeted therapies, a number of which have already been brought to market. In addition, consistent with our science-focused strategy, Novartis has developed a unit within our Pharmaceuticals Division to refine the diagnostic tools made possible by personalized medicine with a goal of capitalizing on the commercial opportunities they represent.

Increasingly Challenging Business Environment

The increasing demand for healthcare worldwide and the advances of science offer healthcare companies opportunities for growth and to help improve patient outcomes. However, the operating environment for healthcare companies has become increasingly challenging. The recent global financial crisis coupled with rising demands on healthcare systems have led to a renewed focus on cost containment by governments and payors across the globe. Research and development of new products has been made more complicated and costly due to high levels of regulatory and safety scrutiny. In addition, the industry faces the continued expiration of patents and the growing market prominence of generic products, which represents a significant challenge to our Pharmaceuticals Division.

Increased Pressure to contain Healthcare Spending

The growth of overall healthcare costs as a percentage of GDP in many countries means that governments and payors are under intense pressure to control spending even more tightly. These pressures are particularly strong given the lingering effects of the recent global economic and financial crisis, including the ongoing debt crisis in certain countries in Europe. As a result, our businesses and the healthcare industry in general are operating in an ever more challenging environment with very significant pricing pressures. These ongoing pressures affect all of our businesses that rely on reimbursement including Pharmaceuticals, Sandoz, Vaccines and Diagnostics and involve government imposed industry-wide price reductions, mandatory pricing systems, reference pricing initiatives, an increase in imports of drugs from lower-cost countries to higher-cost countries, shifting of the payment burden to patients through higher co-payments, limiting physicians' ability to choose among competing medicines, mandatory substitution of generic drugs, and growing pressure on physicians to reduce the prescribing of patented prescription medicines.

As a result of such measures, we faced downward pricing pressures on our branded and generic drugs in many countries in 2010. For example, Greece imposed temporary price cuts of 3% to 27%. Germany increased the required rebate for certain products from 6% to 16%. Turkey imposed a discount on certain products of 11% to 23%. And Spain imposed a discount of 7.5% on branded drugs and a discount of 25% on generic drugs.

We expect these pressures to continue in 2011 as healthcare payors around the globe in particular government-controlled health authorities, insurance companies and managed care organizations step up initiatives to reduce the overall cost of healthcare.

Increasing Regulatory, Safety Hurdles

Our ability to continue to grow our business and to replace sales lost due to the end of market exclusivity depends upon the success of our research and development activities in identifying and

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developing high-potential breakthrough products that address unmet needs, are accepted by regulators, patients and physicians, and are reimbursed by payors. Developing new pharmaceutical, biologic and vaccine products and bringing them to market, however, is a highly costly, lengthy and uncertain process. Following several widely publicized issues in recent years, health regulators are increasingly focusing on product safety. In addition, authorities have paid increased attention to the risk/benefit profile of pharmaceutical products with an increasing emphasis on product safety and the value-add of products. These developments have led to requests for more clinical trial data, for the inclusion of a significantly higher number of patients in clinical trials, and for more detailed analysis of the trials. As a result, the already lengthy and expensive process of obtaining regulatory approvals for pharmaceutical products has become even more challenging.

The post-approval regulatory burden on pharmaceutical companies has also been growing. Approved drugs have increasingly been subject to requirements such as Risk Evaluation and Mitigation Strategies (REMS), Risk Management Plans, comparative effectiveness studies, Health Technology Assessments, and requirements to conduct post-approval Phase IV clinical trials to gather detailed safety and other data on products. These requirements make the maintenance of regulatory approvals and achieving reimbursement for our products increasingly expensive, and further heighten the risk of recalls, product withdrawals, or loss of market share. Going forward, we expect that there will be even greater regulatory attention to minimizing risk and to maximizing benefit on the level of the individual patient.

While Novartis continues to be an industry leader in approvals, similar to our industry peers we have been required by health authorities to conduct additional clinical trials, and to submit additional analyses of our data in order to obtain product approvals. We have had REMS and other such requirements imposed as a condition of approval of our new drugs. These have increased our costs of, and caused delays in obtaining approvals of new products, and have created a risk that safe and efficacious products will not be approved, or will be removed from the market after previously having been approved. Novartis aims to counter such challenges through our focus on quality and innovation, and through our emphasis on understanding disease pathways, which we believe will enable us to continue to bring differentiated new medicines to the market that effectively address patients' unmet medical needs.

Patent Expirations and Generic Competition Pressure the Pharmaceutical Industry

The pharmaceutical industry faces an unprecedented level of patent expirations in the coming years, a primary factor cited by experts as limiting industry growth. For the industry as a whole, the introduction of new products is not expected to generate the same magnitude of industry sales as the products losing market exclusivity.

The ability to successfully secure and defend intellectual property rights is important to the Pharmaceuticals Division. The loss of exclusivity for one or more important products due to patent expiration, generic challenges, competition from new branded products, or changes in regulatory status could have a material negative impact on the Group's results of operations. Novartis takes legally permissible steps to defend its intellectual property rights, including initiating patent infringement lawsuits against generic drug manufacturers.

Some of our best-selling products are expected to face significant competition beginning as early as this year due to the end of market exclusivity resulting from the expiry of patent protection.

The patent on valsartan, the active ingredient of *Diovan/Co-Diovan/Diovan HCT* (high blood pressure), expires in the major countries of the EU during 2011, in the US in September 2012, and in Japan in 2013. In addition, the active ingredient valsartan is also used in the single-pill combination therapies *Exforge/Exforge HCT* (high blood pressure). While there is an expectation that market exclusivities for *Exforge/Exforge HCT* will remain in the EU and Japan due to regulatory exclusivities, there is a risk that the product may face generic competition in the US beginning in September 2012.

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The patent on zoledronic acid, the active ingredient in *Zometa* (cancer), as well as in *Reclast/Aclasta* (osteoporosis), will expire in 2013 in the US and in 2012 and 2013 in other major markets.

The patent on *Femara* (cancer) will expire in 2011 in the US and in major European markets, while generic versions have already been launched in some smaller European markets.

We plan to replace revenue lost from such products with revenue from our recently launched products (products launched since 2007 comprised 21% of our sales in 2010). Nevertheless, the loss of sales from key products remains a major challenge to our business.

Legal Proceedings may have a significant negative Effect on Results of Operations

In recent years, there has been a trend of increasing litigation against the industries of which we are a part, especially in the US. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time. As a result, we may become subject to substantial liabilities that may not be covered by insurance. Litigation is inherently unpredictable, and large verdicts can occur. As a consequence, we may in the future incur judgments or enter into settlements of claims that may have a material adverse effect on our results of operations or cash flows.

Governments and regulatory authorities have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, antitrust and trade sanctions. Our businesses have been subject to significant civil litigation as well as governmental investigations and information requests by regulatory authorities. For further information on various legal proceedings, see "Item 18. Financial statements note 20".

Novartis Strategies for Sustainable Growth

Novartis believes it has an excellent portfolio to address the demands of the fast-changing healthcare environment. In addition, we are implementing longer-term strategic initiatives focusing on our key priorities of innovation, growth and productivity in order to make our growth sustainable.

The Novartis Growth Strategy: Focused Diversification

The Novartis portfolio of healthcare businesses gives us a strong position to meet many of the needs of customers and patients in today's healthcare marketplace. Sustained growth in the industry requires the capacity to adapt to changing and expanding markets, to collaborate with industry stakeholders, and to deliver new treatments based on new medical advancements that improve patient health. We believe that Novartis has both the scope and innovative capacity to deliver this in many attractive segments of the healthcare market globally.

Novartis maintains a leadership position in developing and delivering prescription medicines (Pharmaceuticals), preventative vaccines and diagnostic tools (Vaccines and Diagnostics), complex, differentiated generics and biosimilars (Sandoz), as well as market-leading over-the-counter offerings, medicines for animals, and consumer eye care products (Consumer Health). In addition, through Alcon, we have acquired a leading presence in the dynamic eyecare market. As a consequence, Novartis is not dependent for growth on any one product, region, or market. Our growth is sustained by our strong position in diverse market segments, with a focus on the areas of greatest customer and patient need.

Despite governmental pressure on prices and generic competition, the healthcare landscape continues to offer growth opportunities. We believe that the Novartis portfolio will allow us to continue to grow, and to improve healthcare outcomes for patients across treatment categories all over the world.

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Pharmaceuticals: Expanding a Pipeline of Innovative Medicines

Novartis has developed innovative medicines for the treatment of cancer, cardiovascular disease, and neurological conditions, to name a few. Yet urgent patient need remains, as many diseases and conditions lack effective treatments, or any treatment at all. In addition, the aging of the global population and the worldwide acceleration in the incidence of chronic disease and obesity have created new urgency for treatments of conditions such as chronic respiratory conditions, hypertension and diabetes.

Novartis Pharmaceuticals continues to invest in a robust pipeline of promising new medicines to meet the needs of the global patient population. We have led the industry in approvals of new molecular entities in the US and EU over the last several years, and in 2010, our Pharmaceuticals Division invested $6.2 billion in R&D (excluding impairment and amortization charges), or 20.1% of net sales.

Further, our ability to constantly rejuvenate our portfolio through new offerings, such as *Gilenya*, which was approved in the US and other countries in 2010 for relapsing forms of multiple sclerosis, allows us to sustain growth even in the face of factors such as patent loss, increased generics competition and government pricing caps. In 2010, recently launched products (those launched since 2007) accounted for $6.6 billion, 21% of net sales, compared to 16% in 2009. We expect these products as well as new products to be launched over the next five years to generate an increasing proportion of our sales.

Vaccines and Diagnostics: Preventing Disease

As global healthcare costs rise and chronic diseases become a greater burden in emerging markets, the prevention of disease has taken on new urgency. Governments and payors are increasingly recognizing the essential roles played by vaccines and blood screening in prevention, and in generally maintaining worldwide health.

The vaccines market continues to expand, with expected growth of approximately 10% annually for the next five years. We are focused on developing safe and effective methods to better prevent various forms of the flu as well as other major causes of human illness. Novartis vaccines research is leading advances in the way vaccines are made in order to bring to patients novel offerings to effectively prevent devastating infectious diseases.

We have successfully incorporated cutting edge technologies into our research practices, including the use of genomics and reverse vaccinology. These processes were essential in the development, for example, of our response to last year's A (H1N1) pandemic flu, and in our development of *Bexsero*, our investigative vaccine against the B serogroup of meningococcal disease, which infects between 20,000 and 80,000 people each year, with infants being most at risk. We have also launched several tailored alliances to bring vaccines to many parts of the developing world, strengthening our presence in key emerging markets and providing vaccines for patients with critical unmet needs.

Sandoz: Creating Affordable, Effective Alternatives to Complex Drugs

Governments and healthcare providers worldwide are increasingly transitioning to generic medicines as an alternative to branded prescription products in order to contain overall healthcare spending. By 2015, branded pharmaceuticals with sales totaling $140 billion will lose their patent protection and face potential competition from generic alternatives. There is a particular demand for generic alternatives to complex branded treatments, as these treatments are often among the most costly. This demand has made the market for differentiated, "difficult-to-make" generics one of the fastest growing and most attractive segments of the generics industry. Sandoz has established itself as a leader in developing "difficult-to-make" products, including inhalers, oncology injectables, patches and biosimilars. The significant technological capabilities and expertise required to develop such treatments and related costs represent a significant barrier to entry for most companies. However, Sandoz has been effective in leveraging the innovative technological capabilities and commercial scope of the entire Novartis Group in order to overcome these hurdles. In 2010, Sandoz became the first company to launch generic enoxaparin

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sodium the best-selling medicine in its class in the US delivering on our strategy of being first-to-market with key products, and underscoring our leadership in differentiated products.

In addition, we have selectively strengthened these capabilities via targeted acquisitions, for example of EBEWE Pharma, a private Austrian generics manufacturer specializing in oncology injectables, and of Oriel Therapeutics, a private US company specializing in the development of generic inhaled medicines.

Sandoz has had great success in creating highly complex biosimilars, with a 2010 market segment share of over 50%. Sandoz is also the first and only company with more than one biosimilar on the market in Europe, and achieved the first-ever biosimilar approvals in the US, Japan and Canada. Our strong biosimilars pipeline, with more than eight molecules in development, give us an opportunity to remain at the forefront of this key sector, driving continued growth and making healthcare more affordable for patients.

Consumer Health: Offering At-Home Treatment Options to Patients Worldwide, Medicines for Animals and Consumer Eye Care Products

Accelerated healthcare spending is leading governments, payors and other healthcare providers to seek ways to reduce overall healthcare costs. In many cases, over-the-counter (OTC) medicines provide a cheaper, effective alternative to prescription options. In addition, wider availability of health information via the internet that empowers patients to play a greater role in their own healthcare can lead them to choose OTC offerings in treating or preventing illness. We plan to drive growth in OTC by increasing the scale of business in top markets and expanding our portfolio in core disease areas such as gastrointestinal and pain relief.

Another way we can maximize the return on investment in research into new medicines is to seek to treat animals with the same compounds as those in medicines for humans. In many cases, our Pharmaceuticals Division's medicines in adjusted doses and dosage forms have applications for animal populations that are important to human societies, such as farm and companion animals. We are able to leverage synergies across research and development and manufacturing to make Animal Health an important second stream of growth for our new and existing treatments.

CIBA Vision, which experienced robust growth in 2010, offers a range of contact lenses and contact lens supplies. These include technologically sophisticated products such as the Air Optik line of next generation silicone hydrogel lenses. One of the key products in this line, the Air Optik *Aqua Multifocal* lens, continues to grow sharply after becoming the number one lens for presbyopic users in April 2010, less than 12 months after its launch. We will continue to harness our innovation resources to create tailored vision offerings for developed countries and emerging markets.

Alcon, Inc.: Addressing the World's Eye Care Needs

As the global population continues to age, healthcare demands in eye care are expected to accelerate. Globally, there are already 65 million people with glaucoma and 22 million people with age-related macular degeneration. As a result, eye care has been one of the fastest growing therapeutic areas in the healthcare industry.

Novartis has long held an established position in the eye care segment through CIBA Vision and our ophthalmological pharmaceutical portfolio. In 2010, we further strengthened our ability to meet the needs of patients suffering from eye diseases and to capture the growth opportunities of this sector with the completion in August of our acquisition of a 77% majority ownership interest in Alcon, Inc., the world's largest eye care company. In December, we announced a definitive agreement with Alcon to merge Alcon, Inc. into Novartis, subject to certain approvals and conditions. We currently expect this merger to be completed during the first half of 2011.

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Complementary to the portfolios of Novartis Pharmaceuticals and CIBA Vision, Alcon provides innovative pharmaceuticals and surgical equipment that specialist physicians use to treat glaucoma, cataracts, eye infections and allergies and retinal diseases. It also provides consumer eye care products to patients. Once the merger is completed, we intend to combine our complementary businesses into a new division called Alcon in order to better address patient needs as well as to create value for shareholders.

Our Priorities: Innovation, Growth and Productivity

Novartis is committed to the larger goal of becoming the most successful and respected healthcare company in the world. To achieve this, we base our operations on three strategic priorities: leading innovation through new research methods and new collaborations with industry stakeholders to better address customer and patient needs; accelerating growth by responding to key market opportunities and developing new treatments and delivering them quickly and efficiently to customers and patients; and improving productivity by streamlining our organization in order to improve profitability and free up resources for new research and development investments. We believe by focusing on these principles we can enhance our capabilities in meeting the world's healthcare needs and continue to drive value for our investors.

Leading Innovation

Our commitment to scientific innovation underpins our strategy. Our research approach, which focuses on understanding diseases and the molecular pathways that lead to them, has fundamentally changed how we do business. Researching these pathways allows us to establish "proof of concept" via small clinical studies, often in rare diseases, early in the research and development process. Regulatory approval can often also be achieved relatively quickly because of the tremendous unmet need of patients with such rare diseases. While growth is supported by the initial launch of the given compound in the targeted population, we are often also able to conduct parallel development into other potential treatment applications, often with much larger patient populations.

For example, *Ilaris*, a medication initially developed and approved for use in the treatment of cryopyrin-associated periodic syndrome (CAPS), a rare disease with a global patient population of only a few thousand people worldwide, has been shown in recent studies to have the potential to treat gout, certain forms of arthritis, diabetes and cardiovascular disease conditions with patient populations significantly larger than that of CAPS. *Afinitor*, approved for the treatment of patients with renal cell carcinoma, has received an additional approval this year for the treatment of subependymal giant cell astrocytomas, a benign brain tumor associated with tuberous sclerosis. *Afinitor* is undergoing priority FDA review for treatment of advanced pancreatic neuro-endocrine tumors for which there are no approved treatments, and is currently being studied in late-stage clinical trials for several other cancers, including advanced breast cancer.

Our track record of bringing new medicines to the market continues to be industry-leading. Between 2007 and 2010, we secured approval for 12 new molecular entities from the European Medicines Agency and for six from the US Food and Drug Administration. In each case this tally was higher than any other company, indicating that our commitment to consistent investment in innovation is achieving success.

Novartis is also exploring ways to use technology to improve patient outcomes beyond traditional research and development. We are actively exploring the implementation of telehealth technology, which allows remote monitoring of key health indicators and patient compliance. These technologies could both reduce healthcare costs and improve patient outcomes by allowing healthcare professionals to assess treatments and identify problems in real time.

We believe that our focus on innovation will enable us to continue to produce breakthroughs that address unmet patient need and further grow our business.

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Accelerating Growth

Novartis aims to accelerate growth in two key ways via the introduction of innovative new products as described above and through expansion of our business in the rapidly expanding so-called emerging markets. We have increased our presence in high-growth markets around the world, particularly in the key markets of Brazil, China, India, Russia, South Korea and Turkey. Long-term investments in these areas are crucial to winning market share and being well-positioned to capture the opportunities their expected growth will offer.

Novartis has taken steps to tailor our presence in these markets to their specific needs. In China, for example, we actively responded to the government's healthcare reform programs by moving from a centralized commercial model to a flexible, decentralized one, in which local teams were empowered to allocate resources and launch programs that made sense for their particular customers. We will continue to expand our commercial infrastructure and capabilities in China, while also pursuing targeted licensing, acquisition and alliance opportunities. In Brazil, we are leveraging our broad portfolio in order to gain scale to compete with consolidating retail channels and to provide key accounts with the full range of Novartis offerings. In India, we are leveraging the capabilities of Pharmaceuticals, Sandoz, and Vaccines and Diagnostics to gain critical mass, and investing in localized products and commercial infrastructure. In Russia, we are building alliances with government, regions and local companies and strengthening key account management to expand our reach. For example, in late 2010, we confirmed our intent to build a new full-scale pharmaceutical manufacturing plant in St. Petersburg, as part of an overall $500 million commitment in local infrastructure and collaborative healthcare initiatives planned over a five-year period.

In 2010, Novartis (excluding Alcon) generated $4.6 billion, or approximately 10% (2009: 9%) of net sales, from the Group's six priority emerging markets of Brazil, China, India, Russia, South Korea and Turkey, as compared with $30.8 billion, or approximately 64% (2009: 65%) of the Group's net sales, in the world's seven largest developed markets. However, combined net sales in the six priority emerging markets grew at the more rapid pace of 12% in constant currencies in 2010, compared to 8% constant currency growth achieved in the seven largest developed markets. Hence, emerging markets are making increasingly significant contributions to our results, a trend we expect to continue.

In addition, Novartis recognizes that in order to achieve our larger goal of addressing unmet customer and patient needs worldwide, we must work with other stakeholders to help them achieve their goals. Hence, we are adapting our commercial strategy, moving away from a transactional model and instead seeking new alliances with our customers based on a shared commitment to improving patient outcomes. We are working together with hospitals to improve patient care through our broad portfolio, with retailers to provide comprehensive healthcare solutions, and with payors to support disease management programs and to apply health economics and outcomes research. As the healthcare marketplace expands and evolves, Novartis believes such tailored approaches to customers will be essential to sustaining long-term growth and promoting global health.

Driving Productivity

Productivity forms a central strategic principle for Novartis. We integrate efforts toward greater productivity and increased efficiency into all our operations, constantly seeking ways to simplify and streamline processes and to reduce costs to improve margins. Productivity thus forms part of the culture within Novartis, as we look for ways to free up resources that can be devoted to customers, growth initiatives, and research and development into new offerings for patients with unmet needs.

In recent years, we have also launched several specific initiatives to improve productivity. Our Customers First program, first launched in 2009, continues to capture cross-divisional synergies that lower operational costs and foster additional growth. The program leverages the breadth of divisions to better meet customer needs, to drive top-line growth, to increase service quality, and to achieve back-office savings. Rolled out in 45 countries, the program has been successful in improving annual incremental sales in several regions.

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In addition, we recently launched a Group-wide review of our manufacturing footprint of 86 manufacturing sites and 17 in-house operated warehouses. We have also realigned our Pharmaceuticals commercial team in the US to put additional resources behind the greatest growth opportunities. Finally, we have made Procurement a major source of savings by leveraging our scale through implementation of global category management and by creating country Centers of Excellence in key markets.

Acquisitions, Divestments and Other Significant Transactions

Novartis has made several acquisitions, strategic investments and divestments in recent years that have had a significant and ongoing impact on its financial condition and results of operations, see "Item 18. Financial Statements note 2".

Acquisitions in 2010

Corporate Alcon, Inc.

On August 25, 2010, Novartis completed the acquisition of a further 52% interest in Alcon, Inc. (Alcon) following on from the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately $28.3 billion or $180 per share. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for $10.4 billion or $143 per share in July 2008.

The overall purchase price of $38.7 billion includes certain adjustments for Alcon dividends and interest due. Sources of financing for the 77% ownership, including the initial 25% stake purchased in mid-2008, were $17.0 billion of available cash, and $13.5 billion from bonds raised in March 2010 as well as in 2008 and 2009. In addition, during 2010, we raised funds through our commercial paper program, which was used for general corporate purposes of the Novartis Group, as well as for intercompany financing purposes in connection with the acquisition of the 52% interest in Alcon.

The purchase price allocation is final, except for any matters that may arise following 100% ownership. It resulted in a fair value of net identifiable assets of $27.1 billion. Novartis has chosen to record the outstanding non-controlling interests in Alcon at their proportionate share of identifiable net assets amounting to $6.3 billion. Accordingly, goodwill ($17.9 billion) is calculated as the difference between the sum of the fair value of the consideration transferred for the additional 52% interest ($28.3 billion) and the fair value of the initial 25% interest of Novartis ($10.4 billion) in Alcon less 77% of the amount of net identifiable assets recognized ($20.8 billion) at the acquisition date.

For business combinations achieved in stages, IFRS requires that any previously held interest of an acquirer in an acquiree is adjusted to its fair value through the consolidated income statement as of the acquisition date. The agreement that Novartis entered into with Nestlé in 2008 specified an average price of up to $168 per share for all of the approximately 77% interest in Alcon held by Nestlé, including $143 per share for the initial 25% interest acquired by Novartis in 2008, and a maximum of $181 per share for the remaining 52%, including a premium for the change of majority ownership.

Novartis has reassessed the fair value of the initial 25% non-controlling interest in Alcon it acquired from Nestlé in 2008. Novartis determined a fair value of approximately $38.7 billion for the total interest in Alcon currently owned by Novartis based on a price of $168 per Alcon share, which is the per share value proposed for acquiring the outstanding non-controlling interests, discussed further below, and also the approximate average price per share paid by Novartis for the total interest acquired from Nestlé. Novartis assessed the fair value attributable to the initial 25% non-controlling interest as of August 25, 2010 (the date of the acquisition of the 52% majority ownership interest in Alcon) by deducting from the fair value of approximately $38.7 billion for its total interest in Alcon acquired from Nestlé the amount paid for the 52% majority ownership interest of $28.3 billion (which included a premium for gaining majority ownership). This results in a fair value for the initial non-controlling interest in Alcon of approximately $10.4 billion. As this fair value of the initial non-controlling interest exceeds the recorded

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book value of the initial non-controlling interest of approximately $10.0 billion, Novartis has recorded a revaluation gain of $378 million.

This gain has been reduced by $43 million of accumulated losses recorded in the comprehensive income of Novartis since the July 2008 acquisition date of the initial interest. These accumulated losses were recorded under the equity accounting method, which requires such accumulated losses to be recycled into the consolidated income statement at the time of acquiring majority ownership. The net amount of $335 million is recorded as a gain under Income from Associated Companies.

Since the acquisition of majority ownership in Alcon, Inc. on August 25, 2010, Alcon has contributed net sales $2.4 billion and operating income of $323 million.

On December 15, Novartis announced that it has entered into a definitive agreement to merge Alcon into Novartis for Novartis shares and a Contingent Value Amount (CVA). Under the terms of the agreement, the merger consideration will include up to 2.8 Novartis shares and a CVA to be settled in cash that will in aggregate equal $168 per share. If the value of 2.8 Novartis shares is more than $168 the number of Novartis shares will be reduced accordingly. The total merger consideration for the non-controlling interest will be $12.9 billion, comprising of up to 215 million Novartis shares and a potential CVA to be settled in cash.

The merger is currently expected to be completed during the first half of 2011 and is conditional on clearance of a registration statement by the US Securities and Exchange Commission, two-thirds approval by the shareholders of each of Novartis and Alcon voting at their respective meetings and other customary closing conditions.

The proposed acquisition of the remaining outstanding non-controlling interests in Alcon via the merger is a separate transaction following the previous acquisition of majority ownership in Alcon by Novartis. As it changes the Novartis ownership in Alcon but does not result in a change of control, it is accounted for as an equity transaction as required by IAS 27R, meaning assets and liabilities are not revalued as of the date of the acquisition of the outstanding non-controlling interests via the merger, goodwill does not arise and any excess of the consideration paid to acquire the outstanding non-controlling interest over the proportionate share of the outstanding non-controlling interests' net assets is recognized against consolidated equity.

Pharmaceuticals Corthera

On February 3, Novartis completed the 100% acquisition (announced on December 23, 2009) of the privately held US-based Corthera Inc., gaining worldwide rights to relaxin for the treatment of acute decompensated heart failure and assumed full responsibility for development and commercialization for a total purchase consideration of $327 million. This amount consists of an initial cash payment of $120 million and $207 million of deferred contingent consideration. The deferred contingent consideration is the net present value of the additional milestone payments due to Corthera's previous shareholders which they are eligible to receive contingent upon the achievement of specified development and commercialization milestones. The final purchase price allocation resulted in net identified assets of $309 million and goodwill of $18 million. Results of operations since the acquisition date were not material.

Sandoz Oriel Therapeutics

On June 1, Sandoz completed the 100% acquisition of the privately held US-based Oriel Therapeutics Inc., to broaden its portfolio of projects in the field of respiratory drugs for a total purchase consideration of $332 million. This amount consists of an initial cash payment of $74 million and $258 million of deferred contingent consideration. Oriel's previous shareholders are eligible to receive milestone payments, which are contingent upon the company achieving future development steps, regulatory approvals and market launches, and sales royalties. The total $258 million of deferred

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contingent consideration represents the net present value of expected milestone and royalty payments. The final purchase price allocation, including the valuation of the contingent payment elements of the purchase price, resulted in net identified assets of $281 million and goodwill of $51 million. Results of operations since the acquisition date were not material.

Other Significant Transactions in 2010

Corporate Issuance of bond in US dollars

On March 9, Novartis issued a three-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 1.9% three-year tranche totaling $2.0 billion, a 2.9% five-year tranche totaling $2.0 billion and a 4.4% 10-year tranche totaling $1.0 billion were issued by the Group's US entity, Novartis Capital Corp. All tranches are unconditionally guaranteed by Novartis AG.

Corporate Change of pension plan in Switzerland

On April 23, the Board of Trustees of the Novartis Swiss Pension Fund agreed to amend the conditions and insured benefits of the current Swiss pension plan with effect from January 1, 2011. These amendments do not have an impact on existing pensions in payment or on plan members born before January 1, 1956. Under the previous rules, benefits from the plan are primarily linked to the level of salary in the years prior to retirement while under the new rules benefits are also partially linked to the level of contributions made by the members during their active service period up to their retirement. This has led to changes in the amounts that need to be included in the Group's consolidated financial statements prepared using IFRS in respect of the Swiss Pension Fund.

As part of this change, Novartis, supported by the Swiss Pension Fund, will make transitional payments, which vary according to the member's age and years of service. As a result, it is estimated that additional payments will be made over a ten-year period of up to approximately $481 million (CHF 453 million) depending on whether or not all current members affected by the change remain in the plan over this ten-year period.

The accounting consequence of this change in the Swiss pension plan rules results in the Group's consolidated financial statements prepared under IFRS reflecting a net pre-tax curtailment gain of $265 million (CHF 283 million) in 2010. This calculation only takes into account the discounted value of transition payments of $202 million (CHF 219 million) attributed to already completed years of service of the affected plan members as calculated in accordance with IFRS requirements. It does not take into account any amount for transitional payments related to their future years of service.

2010 Subsequent Event Agreement with Johnson & Johnson

On January 3, 2011, Novartis and Johnson & Johnson signed an agreement to settle all litigations related to the silicone hydrogel patents (JUMP patents) referred to in note 20 above. Under the agreement, Novartis will receive a settlement payment and each party will grant to the other party a fully paid up, irrevocable, worldwide non-exclusive license with no right to sub-license under the respective patent rights. Novartis will record the resulting income in the first quarter of 2011.

2010 Subsequent Event Tender Offer for Genoptix, Inc. (Genoptix)

On January 24, 2011, Novartis announced that it has entered into a definitive agreement to acquire Genoptix, Inc. (NASDAQ: GXDX), a specialized laboratory providing personalized diagnostic services to community-based hematologists and oncologists.

In accordance with the terms of the agreement, Novartis is to commence a tender offer for all outstanding shares of common stock of Genoptix at $25.00 per share in cash. This represents a total equity

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value of $470 million and an enterprise value of $330 million. The Novartis offer represents a premium of 39% over Genoptix's unaffected share price of $17.98 on December 13, 2010. It also implies a 27% premium over the closing price of $19.76 on January 21, 2011.

The Genoptix Board of Directors has unanimously approved the transaction and agreed to recommend that Genoptix stockholders tender their shares. The transaction is conditional upon the tender of at least a majority of the shares of Genoptix in the tender offer, receipt of regulatory approvals and other customary closing conditions. The transaction is expected to close within the first half of 2011.

Acquisitions in 2009

Sandoz EBEWE Pharma

On May 20, Novartis announced a definitive agreement for Sandoz to acquire the specialty generic injectables business of EBEWE Pharma for EUR 925 million ($1.3 billion) in cash, to be adjusted for any cash or debt assumed at closing. This transaction was completed on September 22, 2009. The first payment of EUR 600 million ($0.9 billion) was made in 2009, with the balance to be paid in 2010. Based on a final purchase price allocation, EBEWE's identified net assets were $0.7 billion, which resulted in goodwill of $0.5 billion in 2009. Results of operations from this acquisition, which were not material in 2009, were included from the completion date of this transaction.

Vaccines and Diagnostics Zhejiang Tianyuan

On November 4, Novartis announced a definitive agreement to acquire an 85% stake in the Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd. as part of a strategic initiative to build a vaccines industry leader in China and expand the Group's limited presence in this fast-growing market segment. China is the world's third-largest vaccines market, with annual industry sales of more than $1 billion and expectations for sustained double-digit growth given the government's commitment to improve access to quality healthcare. Terms call for Novartis to purchase an 85% majority interest for approximately $125 million in cash. The transaction, which is expected to be completed in 2011, is subject to certain closing conditions, including receipt of government and regulatory approvals in China.

Other Significant Transactions in 2009

Corporate Issuance of bond in US dollars

On February 5, Novartis issued a two-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 4.125% five-year tranche totaling $2.0 billion was issued by the Group's US entity, Novartis Capital Corp., while a 5.125% 10-year tranche totaling $3.0 billion was issued by the Group's Bermuda unit, Novartis Securities Investment Ltd. Both tranches are unconditionally guaranteed by Novartis AG.

Corporate Issuance of bond in euros

On June 2, Novartis issued a EUR 1.5 billion bond (approximately $2.1 billion) with a coupon of 4.25% under its EUR 15 billion Euro Medium Term Note Programme. The seven-year bond, issued by Novartis Finance S.A., Luxembourg, has a maturity date of June 15, 2016, and is guaranteed by Novartis AG.

Corporate Novartis India Ltd.

On June 8, Novartis completed a tender offer to acquire additional shares from public shareholders and increased its stake in the majority-owned Indian subsidiary, Novartis India Ltd., to 76.4% from 50.9% for approximately INR 3.8 billion ($80 million). Almost all large institutional investors and quasi-institutional shareholders participated in the offer. This transaction resulted in $57 million of goodwill.

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Pharmaceuticals Idenix

On August 5, Novartis did not participate in an underwritten public offering by Idenix Pharmaceuticals, which reduced the Group's stake to 47% from the pre-offering level of 53%. As a result of this offering, Novartis no longer controls this company, so Idenix was deconsolidated with effect from September 1, 2009. Idenix has been accounted for on an equity basis since this date, which had no material impact on the Group's consolidated income statement.

Acquisitions in 2008

Corporate Alcon

On April 7, Novartis announced an agreement with Nestlé S.A. under which Novartis obtained rights to acquire majority ownership of Alcon Inc. (NYSE: ACL), a Swiss-registered company listed only on the New York Stock Exchange. The potential total value of this transaction is up to approximately $38.5 billion. On July 7, 2008, Novartis acquired a 25% stake in Alcon, representing 74 million shares, from Nestlé for $10.4 billion in cash.

Pharmaceuticals Speedel

On July 10, Novartis announced the all-cash purchase of an additional 51.7% stake in Speedel Holding AG (SIX: SPPN) through off-exchange transactions together with plans to buy all remaining shares in the Swiss biopharmaceuticals company in a mandatory public tender offer. In September 2009, Speedel shares were delisted from the SIX Swiss Exchange and Novartis holds now all shares. The price for the 90.5% interest not previously held was CHF 939 million ($888 million) excluding $26 million of cash held by Speedel as of the July 2008 acquisition date of majority control. Speedel has been fully consolidated as a subsidiary since the July acquisition of a majority stake. Based on a final purchase price allocation, Speedel's identified net assets were $472 million, which resulted in goodwill of $493 million in 2008. As a result of this purchase price allocation, the value of the initial 9.5% stake rose by $38 million, which was recorded in the consolidated statement of comprehensive income. The consolidation of Speedel resulted in immaterial amounts being included in the Group's consolidated income and operating cash flow statements for 2008 and 2009.

Pharmaceuticals Protez

On June 4, Novartis agreed to acquire Protez Pharmaceuticals, a privately held US biopharmaceuticals company, gaining access to PTZ601, a broad-spectrum antibiotic in Phase II development against potentially fatal drug-resistant bacterial infections. Novartis paid in total $102 million in cash to acquire 100% of Protez, whose owners are eligible for additional payments of up to $300 million contingent upon the future success of PTZ601. Protez has been consolidated since the transaction completion on July 17. Based on the purchase price allocation, identified net assets from Protez amounted to $72 million, which resulted in goodwill of $30 million. The consolidation of Protez resulted in immaterial amounts being included in the Group's consolidated income and operating cash flow statements for 2008 and 2009.

Pharmaceuticals Nektar pulmonary business

On October 21, Novartis agreed to acquire Nektar Therapeutics Inc.'s pulmonary business unit for $115 million in cash. In this transaction, which was completed on December 31, 2008, Novartis acquired research, development and manufacturing assets of Nektar's pulmonary business unit, including tangible assets as well as intellectual property, intangible assets and related expertise. The full purchase price was allocated to the net assets acquired with no residual goodwill.

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Other Significant Transactions in 2008

Corporate Issuance of Swiss franc bonds

On June 26, Novartis issued two Swiss franc bonds totaling CHF 1.5 billion (approximately $1.4 billion) in the Swiss capital market, with each listed on the SIX Swiss Exchange. One was a 3.5% four-year bond for a total of CHF 700 million issued by Novartis Securities Investment Ltd. and guaranteed by Novartis AG. The other was a 3.625% seven-year bond of CHF 800 million issued by Novartis AG.

CORE RESULTS AS DEFINED BY NOVARTIS

The Group's operating income, net income and earnings per share from continuing operations have been significantly affected by acquisition-related factors, including the amortization of intangible assets, impairment charges, expenses relating to the integration of acquisitions as well as other items that are, or are expected to accumulate to be, over a $25 million threshold that management deems exceptional.

Novartis believes that investor understanding of the Group's performance is enhanced by disclosing these performance measures.

Novartis uses these core measures as important factors in assessing the Group's performance in conjunction with other performance metrics. The following are examples of how these core measures are utilized:

In addition to monthly reports containing financial information prepared under International Financial Reporting Standards (IFRS), senior management receives a monthly analysis incorporating these core measures.

Annual budgets are prepared for both IFRS and core measures.

Despite the use of these measures to management in setting goals and measuring the Group's performance, these are non-IFRS measures that have no standardized meaning prescribed by IFRS. As a result, such measures have limits in their usefulness to investors. Because of their non-standardized definitions, the core measures (unlike IFRS measures) may not be comparable to the calculation of similar measures of other companies. These core measures are presented solely to permit investors to more fully understand how the Group's management assesses underlying performance. These core measures are not, and should not be viewed as, a substitute for IFRS measures.

As an internal measure of Group performance, these core measures have limitations, and the performance management process is not solely restricted to these metrics. A limitation of the core measures is that they provide a view of the Group's operations without including all events during a period, such as the effects of an acquisition or amortization of purchased intangible assets.

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The following tables reconcile IFRS results to core results:

2010, 2009 AND 2008 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS GROUP

Group	FY 2010 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	FY 2010 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**37,073**	**1,061**	**(90)**	**471**	**2**	**38,517**
Operating income	**11,526**	**1,135**	**981**	**600**	**(236)**	**14,006**
Income before taxes	**11,702**	**1,560**	**981**	**280**	**(104)**	**14,419**
Taxes	(1,733)					(2,390)[5]
Net income	**9,969**					**12,029**
Basic earnings per share ($)[6]	4.28					5.15
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(14,488)	1,061	(90)	471	2	(13,044)
The following are adjustments to arrive at Core Operating Income						
Marketing & Sales	(13,316)	1				(13,315)
Research & Development	(9,070)	69	903		18	(8,080)
General & Administration	(2,481)	4				(2,477)
Other income	1,234		(10)		(739)	485
Other expense	(1,914)		178	129	483	(1,124)
The following are adjustments to arrive at Core Income before taxes						
Income from associated companies	804	425		(320)	132	1,041

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Marketing & Sales includes the recurring amortization of intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets; Income from associated companies includes the recurring amortization of the purchase price allocation related to intangible assets, primarily for the investment in Roche in 2010 and 2009 and Alcon in 2009.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including an additional reversal of $100 million in Pharmaceuticals for an impairment charge taken in 2007 for *Famvir*; Research & Development includes write-offs related to in-process Research & Development, mainly charges totalling $856 million for the discontinuation of *Mycograb*, albinterferon alfa-2b, PTZ601 and ASA404 development projects; Other income includes the reversal of impairments, primarily for property, plant & equipment; Other expense includes impairments, primarily for financial assets, thereof $45 million in Pharmaceuticals, $98 million in Vaccines and Diagnostics and $20 million in Corporate as well as $14 million in Vaccines and Diagnostics for property, plant & equipment.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes mainly charges of $467 million related to the required inventory step-up to estimated fair value in Alcon; Other expense includes charges in Corporate of $99 million related to the acquisition of Alcon and $30 million

recorded in Alcon related to the change of majority

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ownership of Alcon; Income from associated companies includes a $378 million revaluation gain on the initial 25% interest in Alcon, a $43 million charge for the recycling of losses accumulated in comprehensive income related to Alcon since its inclusion as an associated company in 2008, and a $15 million charge for the change of majority ownership.

(4)

Exceptional items: Cost of Goods Sold includes charges related to inventory write-off in Vaccines and Diagnostics due to a restructuring program; Research & Development includes an expense of $18 million for termination of a co-development contract in Sandoz; Other income includes a divestment gain of $392 million for the divestment of *Enablex* in Pharmaceuticals, proceeds of $42 million from a legal settlement in Pharmaceuticals with Teva regarding *Famvir*, a divestment gain of $33 million for *Tofranil* in Pharmaceuticals and a Swiss pension curtailment gain of $265 million in Corporate; Other expense includes mainly a $152.5 million provision for a gender discrimination case in the US in Pharmaceuticals, charges of $203 million for restructuring programs in Pharmaceuticals, Vaccines and Diagnostics, and Sandoz, a $25.5 million provision in connection with a government investigation in the US in Pharmaceuticals, $45 million for a legal settlement in Vaccines and Diagnostics, and a $38 million charge for a legal settlement in Sandoz; Income from associated companies reflects an additional charge of $43 million for the Novartis share of Roche's restructuring charges for Genentech taken in the second half of 2009 but recorded by Novartis in 2010 as well as an estimated charge of $89 million for the Novartis share of Roche's restructuring that was recently announced.

(5)

Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally this results in amortization of intangible assets and acquisition-related restructuring and integration items having a full tax impact whereas tax impacts on impairments can only be taken into account if the changes in value in the underlying asset are tax deductible in the respective jurisdiction where the asset is recorded. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $2.7 billion to arrive at the core results before tax, amounts to $657 million. This results in the average tax rate on the adjustments being 24.2%.

(6)

Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

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Group	FY 2009 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	FY 2009 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**32,924**	**938**	**(69)**	**18**	**(28)**	**33,783**
Operating income	**9,982**	**1,025**	**75**	**18**	**337**	**11,437**
Income before taxes	**9,922**	**1,594**	**167**	**18**	**434**	**12,135**
Taxes	(1,468)					(1,868)[5]
Net income	**8,454**					**10,267**
Basic earnings per share ($)[6]	3.70					4.50
The following are adjustments to arrive at Core Gross Profit						
Other revenues	836				(28)	808
Cost of Goods Sold	(12,179)	938	(69)	18		(11,292)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(7,469)	87	95			(7,287)
Other income	782				(65)	717
Other expense	(1,924)		49		430	(1,445)
The following are adjustments to arrive at Core Income before taxes						
Income from associated companies	293	569	92		97	1,051

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms; Income from associated companies includes the amortization of the purchase price allocation related to intangible assets, primarily for the Roche and Alcon investments.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including a partial reversal of $100 million in Pharmaceuticals for an impairment taken in 2007 for *Famvir*; R&D includes write-offs related to in-process R&D; Other expense includes impairments, primarily for financial assets; Income from associated companies reflects the $92 million impairment charge taken for an Alcon pharmaceuticals development project.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $18 million related to the EBEWE Pharma specialty generics business acquisition.

(4) Exceptional items: Other revenues reflects a $28 million gain from a settlement of Vaccines and Diagnostics; Other income reflects divestment gains in Pharmaceuticals; Other expense includes $345 million for legal provisions, litigations and exceptional settlements principally for the *Trileptal* and *TOBI* US government investigation; Income from associated companies reflects a $97 million one-time charge for the Novartis share of Roche's restructuring charges for Genentech.

(5) Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally this results in amortization of intangible assets and acquisition-related

restructuring and integration items having a full tax impact whereas tax impacts on impairments can only be taken into account if the changes in value in the underlying asset are tax deductible in the respective jurisdiction where the asset is recorded. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions.

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Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $2.2 billion to arrive at the core results before tax, amounts to $400 million. This results in the average tax rate on the adjustments being 18.1%.

(6) Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

Group	FY 2008 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	FY 2008 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**31,145**	**969**	**29**		**(203)**	**31,940**
Operating income	**8,964**	**1,095**	**450**	**17**	**(207)**	**10,319**
Income before taxes	**9,499**	**1,493**	**450**	**17**	**(207)**	**11,252**
Taxes	(1,336)					(1,751)[5]
Net income from continuing operations	**8,163**					**9,501**
Basic earnings per share ($)[6]	3.59					4.18
The following are adjustments to arrive at Core Gross Profit						
Net sales to third parties	41,459				(154)	41,305
Other revenues	1,125				(49)	1,076
Cost of Goods Sold	(11,439)	969	29			(10,441)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(7,217)	126	315			(6,776)
Other income	826				(186)	640
Other expense	(1,693)		106	17	182	(1,388)
The following are adjustments to arrive at Core Income before taxes						
Income from associated companies	441	398				839

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms; Income from associated companies includes the amortization of the purchase price allocation related to intangible assets, primarily for the Roche and Alcon investments.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; R&D includes an impairment of $223 million for the Pharmaceuticals development project *Aurograb* and other write-offs related to in-process R&D; Other expense includes impairments, primarily for financial assets.

(3) Acquisition-related restructuring and integration items: Other expense includes various charges of $17 million related to acquisitions during the year.

(4) Exceptional items: Net sales adjustments reflect a $104 million gain from a release of US government rebate provisions in Pharmaceuticals and $50 million due to a change in contractual terms in Vaccines and Diagnostics; Other revenues reflects $49 million from a settlement in Vaccines and

Diagnostics; Other income includes $141 million of divestment

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gains and $45 million from the release of pre-launch inventory provisions in Pharmaceuticals; Other expense includes $79 million for exceptional increases in legal provisions in Pharmaceuticals and various restructuring charges of $75 million and $28 million of product recall costs in Sandoz.

(5) Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally this results in amortization of intangible assets and acquisition-related restructuring and integration items having a full tax impact whereas tax impacts on impairments can only be taken into account if the changes in value in the underlying asset are tax deductible in the respective jurisdiction where the asset is recorded. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $1.8 billion to arrive at the core results before tax, amounts to $415 million. This results in the average tax rate on the adjustments being 23.7%.

(6) Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

2010, 2009 AND 2008 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS PHARMACEUTICALS

Pharmaceuticals	FY 2010 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items	Exceptional items[3]	FY 2010 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**25,776**	**421**	**(100)**			**26,097**
Operating income	**8,798**	**453**	**833**		**(175)**	**9,909**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(5,361)	421	(100)			(5,040)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(7,081)	32	896			(6,153)
Other income	687		(8)		(474)	205
Other expense	(971)		45		299	(627)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and other production-related impairment charges, including an additional reversal of $100 million for an impairment charge taken in 2007 for *Famvir*; Research & Development includes write-offs related to in-process Research & Development, mainly a total of $704 million charge for the discontinuation of *Mycograb* ($356 million), albinterferon alfa-2b ($228 million) and ASA404 ($120 million) development projects and a net pre-tax impairment charge of $152 million ($250 million related to the value of the intangible asset offset by a release of a $98 million liability related to the estimated value of a contingent milestone consideration) for termination of the PTZ601 development project; Other income includes the reversal of impairments, primarily for property, plant & equipment; Other expense includes impairments, primarily for financial assets.

(3) Exceptional items: Other income includes a divestment gain of $392 million for the divestment of *Enablex*, proceeds of $42 million from a legal settlement with Teva regarding *Famvir* and a divestment gain of $33 million for *Tofranil*; Other expense includes a $152.5 million provision for a gender discrimination case in the US, a $111 million charge for restructuring in the US as well as a $25.5 million provision in connection with a government investigation in the US.

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Pharmaceuticals	FY 2009 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items	Exceptional items[3]	FY 2009 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**24,135**	**322**	**(92)**			**24,365**
Operating income	**8,392**	**366**	**30**		**280**	**9,068**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(4,955)	322	(92)			(4,725)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(5,840)	44	81			(5,715)
Other income	414				(65)	349
Other expense	(1,078)		41		345	(692)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including a partial reversal of $100 million for an impairment taken in 2007 for *Famvir*; R&D includes write-offs related to in-process R&D; Other expense includes impairments, primarily for financial assets.

(3) Exceptional items: Other income reflects divestment gains; Other expense includes $345 million for legal provisions, litigations and exceptional settlements principally for the *Trileptal* US government investigation.

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Pharmaceuticals	FY 2008 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	FY 2008 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**22,668**	**350**	**3**		**(104)**	**22,917**
Operating income	**7,579**	**414**	**386**	**6**	**(136)**	**8,249**
The following are adjustments to arrive at Core Gross Profit						
Net sales to third parties	26,331				(104)	26,227
Cost of Goods Sold	(4,481)	350	3			(4,128)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(5,716)	64	317			(5,335)
Other income	447				(186)	261
Other expense	(868)		66	6	154	(642)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; R&D includes an impairment of $223 million for the Pharmaceuticals development project *Aurograb* and other write-offs related to in-process R&D; Other expense includes impairments, primarily for financial assets.

(3) Acquisition-related restructuring and integration items: Other expense includes various charges of $6 million related to acquisitions during the year.

(4) Exceptional items: Net sales to third parties reflect a $104 million gain from a release of US government rebate provisions; Other income includes $141 million of divestment gains and $45 million from the release of pre-launch inventory provisions; Other expense includes $79 million for exceptional increases in legal provisions and various restructuring charges of $75 million.

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2010, 2009 AND 2008 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS VACCINES AND DIAGNOSTICS

Vaccines and Diagnostics	FY 2010 IFRS results $ millions	Amortization of intangible assets[1] $ millions	Impairments[2] $ millions	Acquisition-related restructuring and integration items $ millions	Exceptional items[3] $ millions	FY 2010 Core results $ millions
Gross profit	**1,860**	**242**			**2**	**2,104**
Operating income	**612**	**259**	**112**		**83**	**1,066**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(1,551)	242			2	(1,307)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(523)	17				(506)
Other expense	(273)		112		81	(80)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Other expense relates to a charge of $98 million for an impairment of a financial asset and a charge of $14 million for impairments for property, plant & equipment due to a restructuring program in the UK.

(3) Exceptional items: Cost of Goods Sold includes charges related to inventory write-off due to a restructuring program; Other expense relates to a $45 million expense for a legal settlement and to a $36 million expense for a restructuring program in the UK.

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Vaccines and Diagnostics	FY 2009 IFRS results $ millions	Amortization of intangible assets[1] $ millions	Impairments[2] $ millions	Acquisition-related restructuring and integration items $ millions	Exceptional items[3] $ millions	FY 2009 Core results $ millions
Gross profit	**1,445**	**287**			**(28)**	**1,704**
Operating income	**372**	**312**	**18**		**17**	**719**
The following are adjustments to arrive at Core Gross Profit						
Other revenues	390				(28)	362
Cost of Goods Sold	(1,415)	287				(1,128)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(508)	25	18			(465)
Other expense	(119)				45	(74)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: R&D includes write-offs related to in-process R&D.

(3) Exceptional items: Other revenues reflects a $28 million gain from a settlement; Other expense includes $45 million for legal provisions, litigations and exceptional settlements.

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Vaccines and Diagnostics	FY 2008 IFRS results $ millions	Amortization of intangible assets[1] $ millions	Impairments[2] $ millions	Acquisition-related restructuring and integration items[3] $ millions	Exceptional items[4] $ millions	FY 2008 Core results $ millions
Gross profit	**923**	**285**	**1**		**(99)**	**1,110**
Operating income	**78**	**318**	**1**	**11**	**(99)**	**309**
The following are adjustments to arrive at Core Gross Profit						
Net sales to third parties	1,759				(50)	1,709
Other revenues	414				(49)	365
Cost of Goods Sold	(1,270)	285	1			(984)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(360)	33				(327)
Other expense	(99)			11		(88)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges.

(3) Acquisition-related restructuring and integration items: Other expense includes various charges of $11 million related to acquisitions during the year.

(4) Exceptional items: Net sales to third parties reflect $50 million due to a change in contractual terms; Other revenues reflects $49 million from a settlement.

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2010, 2009 AND 2008 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS SANDOZ

Sandoz	FY 2010 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	FY 2010 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**3,947**	**278**	**4**	**4**		**4,233**
Operating income	**1,272**	**293**	**11**	**4**	**105**	**1,685**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(4,854)	278	4	4		(4,568)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(658)	15	7		18	(618)
Other income	77		(1)			76
Other expense	(295)		1		87	(207)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and other production-related impairment charges; R&D includes write-offs related to in-process Research & Development; Other income includes impairment reversals, primarily for property, plant & equipment; Other expense includes impairments, primarily for property, plant & equipment.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $4 million related to business acquisitions.

(4) Exceptional items: R&D includes an expense for termination of a co-development contract; Other expense includes a $49 million charge for a restructuring program in Germany and a $38 million charge for a legal settlement in the US.

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Sandoz	FY 2009 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	FY 2009 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**3,566**	**246**	**10**	**18**		**3,840**
Operating income	**1,071**	**260**	**6**	**18**	**40**	**1,395**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(4,201)	246	10	18		(3,927)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(613)	14	(4)			(603)
Other expense	(272)				40	(232)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; R&D includes reversal of write-offs related to in-process R&D.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $18 million related to the EBEWE Pharma specialty generics business acquisition.

(4) Exceptional items: Other expense includes a $40 million one-time charge in Sandoz for German commercial operations restructuring.

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Sandoz	FY 2008 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items	Exceptional items[3]	FY 2008 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**3,733**	**258**	**25**			**4,016**
Operating income	**1,084**	**284**	**25**		**28**	**1,421**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(4,119)	258	25			(3,836)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(667)	26	(2)			(643)
Other expense	(223)		2		28	(193)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; R&D includes a reversal of write-offs related to in-process R&D; Other expense includes impairments, primarily for property, plant & equipment.

(3) Exceptional items: Other expense includes $28 million of product recall costs.

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2010, 2009 AND 2008 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS CONSUMER HEALTH

Consumer Health	FY 2010 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items	Exceptional items	FY 2010 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**4,145**	**93**	**6**			**4,244**
Operating income	**1,153**	**94**	**6**			**1,253**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(2,173)	93	6			(2,074)
The following are adjustments to arrive at Core Operating Income						
Marketing & Sales	(2,238)	1				(2,237)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Marketing & Sales includes the recurring amortization of intangible assets.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and other production-related impairment charges.

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Consumer Health	FY 2009 IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items	Exceptional items	FY 2009 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**3,804**	**83**	**13**			**3,900**
Operating income	**1,016**	**84**	**18**			**1,118**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(2,111)	83	13			(2,015)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(346)	1				(345)
Other expense	(84)		5			(79)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; Other expense includes impairments, primarily for property, plant and equipment.

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Consumer Health	FY 2008 IFRS results	Amortization of intangible assets[1]	Impairments	Acquisition-related restructuring and integration items	Exceptional items	FY 2008 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**3,860**	**76**				**3,936**
Operating income	**1,048**	**77**				**1,125**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(2,071)	76				(1,995)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(313)	1				(312)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms.

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2010 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS ALCON, INC.
(consolidated from August 25, 2010)

Alcon, Inc.	FY 2010 IFRS results	Amortization of intangible assets[1]	Impairments	Acquisition-related restructuring and integration items[2]	Exceptional items	FY 2010 Core results
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Gross profit	**1,347**	**27**		**467**		**1,841**
Operating income	**323**	**32**		**497**		**852**
The following are adjustments to arrive at Core Gross Profit						
Cost of Goods Sold	(1,082)	27		467		(588)
The following are adjustments to arrive at Core Operating Income						
Research & Development	(254)	1				(253)
General & Administration	(140)	4				(136)
Other expense	(30)			30		

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets.

(2) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $467 million related to the required inventory step-up to estimated fair value; Other expense includes charges of $30 million related to the change of majority ownership.

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2010 AND 2009 RECONCILIATION SEGMENT OPERATING INCOME TO CORE OPERATING INCOME

	Pharmaceuticals		Vaccines and Diagnostics		Sandoz		Consumer Health		Alcon, Inc.	Corporate		Total	
	2010	2009	2010	2009	2010	2009	2010	2009	2010	2010	2009	2010	2009
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Operating income	**8,798**	**8,392**	**612**	**372**	**1,272**	**1,071**	**1,153**	**1,016**	**323**	**(632)**	**(869)**	**11,526**	**9,982**
Amortization of intangible assets	**453**	**366**	**259**	**312**	**293**	**260**	**94**	**84**	**32**	**4**	**3**	**1,135**	**1,025**
Impairments													
Intangible assets	796	(11)		18	11	6	6	13				813	26
Property, plant & equipment	(4)	4	14					5				10	9
Financial assets	41	37	98							19	3	158	40
Total impairment charges	**833**	**30**	**112**	**18**	**11**	**6**	**6**	**18**		**19**	**3**	**981**	**75**
Acquisition-related restructuring and integration items (including acquisition-related accounting impact of inventory adjustments), net					**4**	**18**			**497**	**99**		**600**	**18**
Exceptional items													
Exceptional gains from divesting brands, subsidiaries and financial investments	(425)	(65)										(425)	(65)
Other restructuring expenses	111		38		49	40						198	40
Legal provisions, litigations and exceptional settlements	139	345	45	17	56							240	362
Swiss pension curtailment gain										(265)		(265)	
Other exceptional items										16		16	
Total exceptional items	**(175)**	**280**	**83**	**17**	**105**	**40**				**(249)**		**(236)**	**337**
Total adjustments	**1,111**	**676**	**454**	**347**	**413**	**324**	**100**	**102**	**529**	**(127)**	**6**	**2,480**	**1,455**
Core operating income	**9,909**	**9,068**	**1,066**	**719**	**1,685**	**1,395**	**1,253**	**1,118**	**852**	**(759)**	**(863)**	**14,006**	**11,437**
Core return on net sales	**32.4%**	**31.8%**	**36.5%**	**29.7%**	**19.8%**	**18.6%**	**20.2%**	**19.2%**	**35.1%**			**27.7%**	**25.8%**

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2009 AND 2008 RECONCILIATION SEGMENT OPERATING INCOME TO CORE OPERATING INCOME

	Pharmaceuticals		Vaccines and Diagnostics		Sandoz		Consumer Health		Corporate		Total	
	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
Operating income	**8,392**	**7,579**	**372**	**78**	**1,071**	**1,084**	**1,016**	**1,048**	**(869)**	**(825)**	**9,982**	**8,964**
Amortization of intangible assets	**366**	**414**	**312**	**318**	**260**	**284**	**84**	**77**	**3**	**2**	**1,025**	**1,095**
Impairments												
Intangible assets	(11)	320	18	1	6	23	13				26	344
Property, plant & equipment	4	13				2	5			1	9	16
Financial assets	37	53							3	37	40	90
Total impairments	**30**	**386**	**18**	**1**	**6**	**25**	**18**		**3**	**38**	**75**	**450**
Acquisition-related restructuring and integration items (including acquisition-related accounting impact of inventory adjustments), net		**6**		**11**	**18**						**18**	**17**
Exceptional items												
Exceptional gains from divesting brands, subsidiaries and financial investments	(65)	(141)									(65)	(141)
Other restructuring expenses		75			40						40	75
Legal provisions, litigations and exceptional settlements	345	79	17	(49)							362	30
Product recall costs						28						28
Release of pre-launch inventory provisions		(45)										(45)
Release of US government rebate provision		(104)										(104)
Change in contractual terms triggering revenue recognition				(50)								(50)
Total exceptional items	**280**	**(136)**	**17**	**(99)**	**40**	**28**					**337**	**(207)**
Total adjustments	**676**	**670**	**347**	**231**	**324**	**337**	**102**	**77**	**6**	**40**	**1,455**	**1,355**
Core operating income	**9,068**	**8,249**	**719**	**309**	**1,395**	**1,421**	**1,118**	**1,125**	**(863)**	**(785)**	**11,437**	**10,319**
Core return on net sales	**31.8%**	**31.5%**	**29.7%**	**18.1%**	**18.6%**	**18.8%**	**19.2%**	**19.4%**			**25.8%**	**25.0%**

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EFFECTS OF CURRENCY FLUCTUATIONS

We transact our business in many currencies other than the US dollar, our reporting currency.

The following provides an overview of net sales and expenses for 2010, 2009 and 2008 for currencies most important to the Group (excl. Alcon):

Currency	2010 in %	2009 in %	2008 in %
US dollar ($)			
Net sales	36	35	34
Operating expenses	34	33	31
Euro (EUR)			
Net sales	29	31	32
Operating expenses	27	31	28
Swiss franc (CHF)			
Net sales	2	3	2
Operating expenses	13	12	16
Japanese yen (JPY)			
Net sales	8	8	7
Operating expenses	4	4	5
Other currencies			
Net sales	25	23	25
Operating expenses	22	20	20

We prepare our consolidated financial statements in US dollars. As a result, fluctuations in the exchange rates between the US dollar and other currencies may have a significant effect on both the Group's results of operations as well as on the reported value of our assets, liabilities, revenue and expenses as measured in US dollars. This in turn may significantly affect reported earnings (both positively and negatively) and the comparability of period-to-period results of operations.

For purposes of our consolidated balance sheets, we translate assets and liabilities denominated in other currencies into US dollars at the prevailing market exchange rates as of the relevant balance sheet date. As a result, even if the amounts or values of these items remain unchanged in the respective local currency, changes in exchange rates have an impact on the amounts or values of these items in our consolidated financial statements. For purposes of the Group's consolidated income statements, revenue and expense items in local currencies are translated into US dollars at average exchange rates prevailing during the relevant period.

We seek to manage currency exposure by engaging in hedging transactions where management deems appropriate. For 2010, we entered into various contracts that change in value with movements in foreign exchange rates in order to preserve the value of assets, commitments and expected transactions. We also use forward contracts and foreign currency options to hedge expected net revenues in foreign currencies. For more information on how these transactions affect our consolidated financial statements and on how foreign exchange rate exposure is managed, see "Item 18. Financial Statements note 1," " note 5" and " note 16".

The average value of the US dollar in 2010 increased against the euro and decreased against the CHF, JPY and other currencies. The following table sets forth the foreign exchange rates of the US dollar

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against the Swiss franc, euro and Japanese yen, respectively, used for foreign currency translation when preparing the Group's consolidated financial statements:

	2010		2009		2008	
$ per unit	Average for year	Year end	Average for year	Year end	Average for year	Year end
EUR	1.327	1.324	1.393	1.436	1.470	1.411
CHF	0.961	1.063	0.923	0.965	0.925	0.948
JPY (100)	1.141	1.227	1.070	1.086	0.970	1.107

The following table provides a summary of the currency impact on key Group figures due to their conversion into $, the Group's reporting currency, of the financial data from entities reporting in non-US dollars. Constant currency calculations apply the exchange rates of the prior year to the current year financial data from entities reporting in non-US dollars.

Currency impact on key figures

	Constant Currencies Change in % 2010	Constant Currencies Change in % 2009	$ Change in % 2010	$ Change in % 2009
Net sales	14	11	14	7
Operating income	17	13	15	11
Net income	20	5	18	4
Core operating income	24	13	22	11
Core net income	18	11	17	8

For additional information on the effects of currency fluctuations see "Item 11. Quantitative and Qualitative Disclosures about Non-Product-Related Market Risk."

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our principal accounting policies are set out in "Item 18. Financial Statements note 1" and are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Given the uncertainties inherent in our business activities, we must make certain estimates and assumptions that require difficult, subjective and complex judgments. Because of uncertainties inherent in such judgments, actual outcomes and results may differ from our assumptions and estimates which could materially affect the Group's consolidated financial statements. Application of the following accounting policies requires certain assumptions and estimates that have the potential for the most significant impact on our consolidated financial statements.

Revenue

We recognize product sales when there is persuasive evidence that a sales arrangement exists, title and risk and rewards for the products are transferred to the customer, the price is fixed and determinable,

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and collectability is reasonably assured. Where contracts contain customer acceptance provisions, typically with government agencies, we recognize sales upon the satisfaction of acceptance criteria.

At the time of recognizing revenue, we also record estimates for a variety of sales deductions, including rebates, discounts, refunds, incentives and product returns. Sales deductions are reported as a reduction of revenue.

Deductions from Revenues

As is typical in the pharmaceuticals industry, our gross sales are subject to various deductions that are composed primarily of rebates and discounts to retail customers, government agencies, wholesalers, health insurance companies and managed healthcare organizations. These deductions represent estimates of the related obligations, requiring the use of judgment when estimating the effect of these sales deductions on gross sales for a reporting period. These adjustments are deducted from gross sales to arrive at net sales.

The following summarizes the nature of some of these deductions and how the deduction is estimated. The US market has the most complex arrangements related to revenue deductions.

US specific Healthcare Plans and Program Rebates

The US Medicaid Drug Rebate Program is administered by State governments using State and Federal funds to provide assistance to certain vulnerable and needy individuals and families. Calculating the rebates to be paid involves interpreting relevant regulations, which are subject to challenge or change in interpretative guidance by government authorities. Provisions for estimating Medicaid rebates are calculated using a combination of historical experience, product and population growth, product price increases and the mix of contracts and specific terms in the individual State agreements. These provisions are adjusted based on established processes and experiences from re-filing data with individual States.

The US Federal Medicare program which funds healthcare benefits to individuals age 65 or older, provides prescription drug benefits under Part D of the program. This benefit is provided through private prescription drug plans. Provisions for estimating Medicare Part D rebates are calculated based on the terms of individual plan agreements, product sales and population growth, product price increases and the mix of contracts.

We offer rebates to key managed healthcare plans to sustain and increase market share for our products. These rebate programs provide payors a rebate after they attain certain performance parameters related to product purchases, formulary status or pre-established market share milestones relative to competitors. These rebates are estimated based on the terms of individual agreements, historical experience and projected product growth rates. We adjust provisions related to rebates periodically to reflect actual experience.

Non-US Specific Healthcare Plans and Program Rebates

In certain countries, other than the US, we provide rebates to governments and other entities. These rebates are often mandated by government regulations or laws.

In several countries we enter into innovative pay-for-performance arrangements with certain healthcare providers, especially in the UK, Germany and Australia. Under these agreements, we may be required to make refunds to the healthcare providers or to provide additional medicines free of charge if anticipated treatment outcomes do not meet predefined targets. Potential refunds and the delivery of additional medicines at no cost are estimated and recorded as a deduction of revenue at the time the related revenues are recorded. Estimates are based on historical experience and clinical data. In cases where historical

experience and clinical data are not sufficient for a

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reliable estimation of the outcome, revenue recognition would be deferred until such history would be available.

Non-Healthcare Plans and Program Rebates, Returns and other Deductions

Chargebacks occur where our subsidiaries have arrangements with indirect customers to sell products at prices that are lower than the price charged to wholesalers. A chargeback represents the difference between the invoice price to the wholesaler and the indirect customer's contract price. We account for vendor chargebacks by reducing revenue by an amount equal to our estimate of chargebacks attributable to a sale and they are generally settled within one to three months of incurring the liability. Provisions for estimated charge-backs are calculated using a combination of factors such as historical experience, product growth rates, payments, level of inventory in the distribution channel, the terms of individual agreements and our estimate of claims processing time lag.

We offer rebates to group purchasing organizations and other direct and indirect customers to sustain and increase market share for our products. Since rebates are contractually agreed upon, rebates are estimated based on the terms of individual agreements, historical experience, and projected product growth rates.

When we sell a product providing a customer the right to return, we record a provision for estimated sales returns based on our sales returns policy and historical rates. Other factors considered include product recalls, expected marketplace changes and the remaining shelf life of the product, and the entry of generic products. In 2010, sales returns amounted to approximately 1% of gross product sales. Especially in the Vaccines and Diagnostics Division, where there is often no Novartis-specific historical return rate experience available, sales are only recorded based on evidence of product consumption or when the right of return has expired.

We entered into distribution service agreements with major wholesalers, which provide a financial disincentive for wholesalers to purchase product quantities exceeding current customer demand. Where possible, we adjust shipping patterns for our products to maintain wholesalers' inventories level consistent with underlying patient demand.

We offer cash discounts to customers to encourage prompt payment. Cash discounts are accrued at the time of invoicing and deducted from revenue.

Following a decrease in the price of a product, we generally grant customers a "shelf stock adjustment" for a customer's existing inventory for the involved product. Provisions for shelf stock adjustments, which are primarily relevant within the Sandoz Division, are determined at the time of the price decline or at the point of sale if a price decline can be reasonably estimated based on inventory levels of the relevant product.

Other sales discounts, such as consumer coupons and co-pay discount cards, are offered in some markets. These discounts are recorded at the time of sale, or when the coupon is issued and are estimated utilizing historical experience and the specific terms for each program. If a discount for a probable future transaction is offered as part of a sales transaction then an appropriate portion of revenue is deferred to cover this estimated obligation.

We adjust provisions for revenue deductions periodically to reflect actual experience. To evaluate the adequacy of provision balances, we use internal and external estimates of the level of inventory in the distribution channel, actual claims data received and the lag time for processing rebate claims. Management also estimates the level of inventory of the relevant product held by retailers and in transit. External data sources include reports of wholesalers and third-party market data purchased by Novartis.

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The following tables show the worldwide extent of our revenue deductions, related payment experiences and provisions:

Provision for revenue deductions

2010	Provisions offset against gross trade receivables at January 1, 2010 $ millions	Provisions at January 1, 2010 $ millions	Effect of currency translation and business combinations $ millions	Payments/ utilizations $ millions	Income Statement charge: Adjustments of prior years $ millions	Income Statement charge: Current year $ millions	Provisions offset against gross trade receivables at December 31, 2010 $ millions	Provisions at December 31, 2010 $ millions
US specific healthcare plans and program rebates		755	226	(1,949)	(8)	2,138		1,162
Non-US specific healthcare plans and program rebates		455	(34)	(444)	(9)	607		575
Non-healthcare plans and program related rebates, returns and other deductions	850	884	163	(5,779)	(32)	6,056	(782)	1,360
Total	**850**	**2,094**	**355**	**(8,172)**	**(49)**	**8,801**	**(782)**	**3,097**

2009	Provisions offset against gross trade receivables at January 1, 2009 $ millions	Provisions at January 1, 2009 $ millions	Effect of currency translation $ millions	Payments/ utilizations $ millions	Income Statement charge: Adjustments of prior years $ millions	Income Statement charge: Current year $ millions	Provisions offset against gross trade receivables at December 31, 2009 $ millions	Provisions at December 31, 2009 $ millions
US specific healthcare plans and program rebates		632		(1,425)	(13)	1,561		755
Non-US specific healthcare plans and program rebates		333	10	(282)	3	391		455
Non-healthcare plans and program related rebates, returns and other deductions	529	700	77	(3,875)	5	4,298	(850)	884
Total	**529**	**1,665**	**87**	**(5,582)**	**(5)**	**6,250**	**(850)**	**2,094**

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2008	Provisions offset against gross trade receivables at January 1, 2008 $ millions	Provisions at January 1, 2008 $ millions	Effect of currency translation $ millions	Payments/ utilizations $ millions	Income Statement charge Adjustments of prior years $ millions	Income Statement charge Current year $ millions	Provisions offset against gross trade receivables at December 31, 2008 $ millions	Provisions at December 31, 2008 $ millions
US specific healthcare plans and program rebates		675		(1,175)	(115)	1,247		632
Non-US specific healthcare plans and program rebates		190	(18)	(281)	(16)	458		333
Non-healthcare plans and program related rebates, returns and other deductions	632	647	(37)	(3,730)	(15)	3,732	(529)	700
Total	**632**	**1,512**	**(55)**	**(5,186)**	**(146)**	**5,437**	**(529)**	**1,665**

Gross to Net sales reconciliation

2010	Income statement charge Charged through revenue deduction provisions 2010 $ millions	Income statement charge Charged directly without being recorded in revenue deduction provisions 2010 $ millions	Total 2010 $ millions	In % of 2010 gross sales %
Gross sales subject to deductions			**64,069**	**100.0**
US specific healthcare plans and program rebates	(2,130)	(117)	(2,247)	(3.5)
Non-US specific healthcare plans and program rebates	(598)	(393)	(991)	(1.5)
Non-healthcare plans and program related rebates, returns and other deductions	(6,024)	(4,183)	(10,207)	(15.9)
Total gross to net sales adjustments	**(8,752)**	**(4,693)**	**(13,445)**	**(20.9)**
Net sales			**50,624**	**79.1**

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2009	Income statement charge Charged through revenue deduction provisions 2009 $ millions	Income statement charge Charged directly without being recorded in revenue deduction provisions 2009 $ millions	Total 2009 $ millions	In % of 2009 gross sales %
Gross sales subject to deductions			**54,691**	**100.0**
US specific healthcare plans and program rebates	(1,548)		(1,548)	(2.8)
Non-US specific healthcare plans and program rebates	(394)	(388)	(782)	(1.5)
Non-healthcare plans and program related rebates, returns and other deductions	(4,303)	(3,791)	(8,094)	(14.8)
Total gross to net sales adjustments	**(6,245)**	**(4,179)**	**(10,424)**	**(19.1)**
Net sales			**44,267**	**80.9**

2008	Income statement charge Charged through revenue deduction provisions 2008 $ millions	Income statement charge Charged directly without being recorded in revenue deduction provisions 2008 $ millions	Total 2008 $ millions	In % of 2008 gross sales %
Gross sales subject to deductions			**49,972**	**100.0**
US specific healthcare plans and program rebates	(1,132)		(1,132)	(2.3)
Non-US specific healthcare plans and program rebates	(442)	(201)	(643)	(1.3)
Non-healthcare plans and program related rebates, returns and other deductions	(3,717)	(3,021)	(6,738)	(13.5)
Total gross to net sales adjustments	**(5,291)**	**(3,222)**	**(8,513)**	**(17.1)**
Net sales			**41,459**	**82.9**

Acquisition accounting

Due to the acquisition of a majority interest in Alcon during 2010, acquisition accounting has had a significant impact on the Group's consolidated financial statements. The Group's consolidated financial statements reflect an acquired business from the date the acquisition has been completed. We account for

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acquired businesses resulting in major ownership using the acquisition method of accounting, which requires the acquired assets and assumed liabilities to be recorded as of the acquisition date at their respective fair values. Any excess of the purchase consideration over the estimated fair values of acquired net identified assets is recorded as goodwill in the balance sheet and denominated in the functional currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit, which is defined as the smallest group of assets that generates independent cash inflows that support the goodwill.

In-Process Research & Development (IPR&D) is valued as part of the acquisition accounting. Payments for other separately acquired assets in development, such as those related to initial and milestone payments for licensed or acquired compounds, are capitalized as IPR&D intangible assets if they are deemed to enhance our intellectual property. This occurs even if uncertainties continue to exist as to whether the R&D projects will ultimately be successful in producing a commercial product. Estimating the fair value assigned to each class of acquired assets and assumed liabilities is based on expectations and assumptions that have been deemed reasonable by management.

Contingent considerations to former owners agreed in a business combination, e.g., in the form of milestone payments upon the achievement of certain development stages or sales targets as well as royalties, are recognized as liabilities at fair value as of the acquisition date. Any subsequent changes in amounts recorded as a liability are recognized in the consolidated income statement.

Impairment of long-lived intangible and tangible assets

We review long-lived intangible and tangible assets for impairment whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable. In order to assess if there is an impairment, we estimate the future cash flows expected to result from the asset and its eventual disposal.

Goodwill and the Alcon brand name have an indefinite useful life and impairment testing is done at least annually. Any impairment charge is recorded in the income statement under "Other expenses". IPR&D is also assessed for impairment at least on an annual basis, with any impairment charge recorded in the income statement under "Research & Development expenses". Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the income statement under "Cost of Goods Sold", where any related future impairment charge is also recorded.

If an asset's balance sheet carrying amount exceeds the higher of its "value in use" to Novartis or "fair value less costs to sell," we will recognize an impairment loss for the difference. "Value in use" is defined as the net present value of future cash flows expected from an asset or cash-generating unit. For intangible assets, we typically use the Discounted Cash Flow method for determining both the value in use and fair value less costs to sell. This method starts with a forecast of all expected future net cash flows. These cash flows, which reflect the risks and uncertainties associated with the assets, are then discounted at an appropriate rate to net present value. The cash flows utilized for value in use are based on management's forecasts. They are adjusted as necessary to use market participant assumptions for a fair value less costs to sell calculation.

The net present values involve highly sensitive estimates and assumptions specific to the nature of the Group's activities with regard to:

- The amount and timing of projected future cash flows;
- The selected discount and tax rate;
- The outcome of R&D activities (compound efficacy, results of clinical trials, etc.);
- The amount and timing of projected costs to develop IPR&D into commercially viable products;
- The probability of obtaining regulatory approval;

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Long-term sales forecasts for periods of up to 20 years;

Sales erosion rates after the end of patent protection and timing of the entry of generic competition; and

The behavior of competitors (launch of competing products, marketing initiatives, etc.).

Factors that could result in shortened useful lives or impairments include:

Entry into the market of generic or alternative products;

Lower-than-expected sales for acquired products or for sales associated with patents and trademarks;

Lower-than-anticipated future sales resulting from acquired IPR&D;

The closing of facilities; and

Changes in the planned use of property, plant & equipment.

We have adopted a uniform method for assessing goodwill for impairment and any other intangible asset indicated as being possibly impaired. Generally, for intangible assets we use cash flow projections for the whole useful life of these assets, and for goodwill and the Alcon brand name, we utilize cash flow projections for a five-year period based on management forecasts, with a terminal value based on sales projections usually in line with or lower than inflation rates for later periods. Probability-weighted scenarios are typically used.

Discount rates used in these scenarios are based on the Group's weighted average cost of capital as an approximation of the weighted average cost of capital of a comparable market participant, which are adjusted for specific country and currency risks associated with cash flow projections.

Due to the above factors, actual cash flows and values could vary significantly from forecasted future cash flows and related values derived using discounting techniques.

The recoverable amount of a cash-generating unit and related goodwill is usually based on the higher of "fair value less costs of sale" or on the "value in use" derived from applying discounted future cash flows based on the key assumptions in the following table:

	Pharmaceuticals	Vaccines and Diagnostics	Sandoz	Consumer Health
	%	%	%	%
Sales growth rate assumptions after forecast period	0.6	2.0	0 to 2.0	(10.0) to 2.0
Discount rate	7.0	7.0	7.0	7.0

There has been no triggering event concerning Alcon between the date of acquisition of majority ownership of August 25, 2010 and December 31, 2010 that indicates that an impairment is necessary of any values determined as part of the final allocation of the purchase price as of August 25, 2010.

In 2010, Novartis recorded impairment charges totaling $1.0 billion. These relate to impairment charges related to terminated development projects of $356 million for *Mycograb*, $250 million for PTZ601, $228 million for albinterferon alfa-2b and $120 million for ASA404. Additionally, $40 million were recorded for various other impairments in the Pharmaceuticals Division. Novartis also recorded various impairment charges of $24 million in the Sandoz and Consumer Health Divisions.

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In 2009, impairment charges of $132 million were recorded, mainly for terminated development projects or for where the anticipated cash flows from future sales no longer supported the carrying value of the intangible assets. This related to various impairment charges of $88 million, mainly for upfront and milestone payments in the Pharmaceuticals Division and $44 million in the Vaccines and Diagnostics, Sandoz and Consumer Health Divisions.

Impairment charges that were recorded in previous years led to reversals in 2010 that amounted to $107 million mainly relating to *Famvir* product rights (2009: $106 million).

In 2008, we recorded impairment charges of $344 million, which included a full impairment of $223 million for the termination of the *Aurograb* (infections) development project and $97 million for various impairments of upfront and milestone payments and product rights in the Pharmaceuticals Division. Additionally, various impairments totaling $24 million were recorded in the other divisions.

The amount of goodwill and other intangible assets on our consolidated balance sheet has increased significantly in recent years, primarily due to acquisitions. Although no significant additional impairments are currently anticipated, impairment testing could lead to material impairment charges in the future. For more information, see "Item 18. Financial Statements note 11".

Investments in associated companies

We use the equity method to account for investments in associated companies (defined as investments in companies that correspond to holdings of between 20% and 50% of a company's voting shares or over which we otherwise have significant influence).

Various estimates are used in applying the equity method, so subsequent adjustments may be required once an associated company publishes financial results or makes public other information. This applies in particular to our investment in Roche Holding AG.

We consider investments in associated companies for impairment testing whenever a company's quoted share price has fallen to a fair value below our per-share carrying value. For unquoted investments in associated companies, the latest available financial information is used to assess whether impairment testing is necessary. Where there is an indication that separately identified assets of the associated company, other than implicit goodwill, might be impaired an impairment test is performed. Any impairment charge is recorded in the consolidated income statement under "Income from associated companies".

The amount of investments in associated companies on our consolidated balance sheet increased significantly in recent years, primarily due to the Alcon investment in 2008. Following the increase in the Novartis interest to a majority ownership of approximately 77% as of August 25, 2010, Alcon is no longer an associated company but is fully consolidated.

Retirement and other post-employment benefit plans

We sponsor pension and other post-employment benefit plans in various forms that cover a significant portion of our current and former associates. We are required to make significant assumptions and estimates about future events in calculating the expense and the present value of the liability related to these plans. These include assumptions about the discount rates we apply to estimate future liabilities, expected returns on plan assets and rates of future compensation increases. In addition, our actuarial consultants provide our management with historical statistical information such as withdrawal and mortality rates in connection with these estimates.

Assumptions and estimates used by the Group may differ materially from the actual results we experience due to changing market and economic conditions, higher or lower withdrawal rates, or longer/shorter life spans of participants among other factors. For example, a decrease in the discount rate we apply in determining the present value of the obligations of one-half of one percent would have increased

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our year-end defined benefit obligation by approximately $1.1 billion. If the 2010 discount rate had been one-half of one percentage point lower than actually assumed, pension expense would have decreased by approximately $9 million, and if the same decrease was also assumed for the return on assets, pension expense would have increased by $76 million. We record differences between assumed and actual income and expense as "Actuarial gains/losses" in the consolidated statement of comprehensive income. These differences could have a material effect on our total equity. For more information on obligations under retirement and other post-employment benefit plans and underlying actuarial assumptions, see "Item 18. Financial Statements note 25".

Derivative financial instruments and related cash flow hedging

Derivative financial instruments are initially recognized in the balance sheet at fair value and subsequently remeasured to their current fair value. Any gain or loss on the hedging instrument relating to the effective portion of changes in the fair value of derivatives in cash flow hedges are recognized in the statement of comprehensive income. The gain or loss relating to the ineffective portion is 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 the consolidated statement of comprehensive income at that time is recognized in the consolidated income statement when the committed or forecasted transaction is ultimately recognized. Management assesses the probability of the forecasted transaction occurring when determining whether the impact of a cash flow hedge can be deferred in the consolidated statement of comprehensive income. Amounts are only deferred when management judges the forecasted transaction to be probable.

Equity-based compensation

The fair value of Novartis shares, restricted shares, restricted share units (RSU) and American Depositary Shares (ADS) and Alcon restricted share units (RSU) and related Novartis and Alcon options granted to associates as compensation are recognized as an expense over the related vesting or service period adjusted to reflect actual and expected vesting levels. The charge for equity-based compensation is included in personnel expenses in the subsidiaries where associates receiving equity-based compensation are employed. An option's fair value at grant date is calculated using an option pricing valuation method. Novartis shares, restricted shares, RSUs and ADSs and Alcon RSUs are valued using the market value on grant date. Accurately measuring the value of share options is difficult and requires an estimate of key factors used in the valuation model. These key factors involve uncertain future events, expected share price volatility and expected dividend yield. For detailed information on the Group's equity-based compensation plans and underlying assumptions for valuation of share options granted in 2010, see "Item 18. Financial Statements note 26".

Contingencies

A number of our subsidiaries are involved in various government investigations and legal proceedings (intellectual property, product liability, commercial, employment and wrongful discharge, environmental claims, etc.) arising out of the normal conduct of their businesses. For more information, see "Item 18. Financial Statements note 20".

We record accruals for contingencies when it is probable that a liability has been incurred and the amount can be reliably estimated. These accruals are adjusted periodically as assessments change or additional information becomes available. For product liability claims, a significant portion of the overall accrual is actuarially determined based on factors such as past experience, amount and number of claims reported, and estimates of claims incurred but not yet reported. We provide for individually significant cases when probable and the amount can be reliably estimated. Legal defense costs are accrued when they

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are expected to be incurred in connection with a loss contingency and the amount can be reliably estimated.

In some instances, the inherent uncertainty of litigation, the resources required to defend against governmental actions, the potential impact on our reputation, and the potential for exclusion from US federal government reimbursement programs have contributed to decisions by companies in our industry to enter into settlement agreements with governmental authorities. These settlements have had in the past, and may continue in the future, to involve large cash payments, including potential repayment of amounts that were allegedly improperly obtained and penalties of up to treble damages. In addition, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Provisions are recorded for environmental remediation costs when expenditure on remedial work is probable and the cost can be reliably estimated. Remediation costs are provided for under "Non-current liabilities" in the Group's consolidated balance sheet. They are estimated by calculating the present value of expected costs. Provisions relating to estimated future expenditure for liabilities do not usually reflect any insurance or other claims or recoveries, since these are only recognized when the amount is reasonably estimable and collection is virtually certain.

Research and Development

Internal Research & Development (R&D) costs are fully charged to the consolidated income statement in the period in which they are incurred. We consider that regulatory and other uncertainties inherent in the development of new products preclude the capitalization of internal development expenses as an intangible asset until marketing approval from the regulatory authority is obtained in a relevant major market, such as for the US, the EU, Switzerland or Japan.

Payments made to third parties in compensation for subcontracted R&D that is deemed not to enhance our intellectual property, such as contract research and development organizations, are expensed as internal R&D expenses in the period in which they are incurred. Such payments are only capitalized if they meet the criteria for recognition as an internally generated intangible asset, usually when marketing approval has been achieved from a regulatory authority in a major market.

Payments made to third parties in order to in-license or acquire intellectual property rights, compounds and products (In-Process Research & Development assets, "IPR&D"), including initial upfront and subsequent milestone payments, are capitalized as are payments for other assets, such as technologies to be used in R&D activities. If additional payments are made to the originator company to continue to perform R&D activities, an evaluation is made as to the nature of the payments. Such additional payments will be expensed if such additional payments are deemed to be compensation for subcontracted R&D services not resulting in an additional transfer of intellectual property rights to Novartis. By contrast, such additional payments will be capitalized if these additional payments are deemed to be compensation for the transfer to Novartis of additional intellectual property developed at the risk of the originator company. Subsequent internal R&D costs in relation to IPR&D and other assets are expensed since the technical feasibility of the internal R&D activity can only be demonstrated by the receipt of marketing approval for a related product from a regulatory authority in a major market.

Costs for post-approval studies performed to support the continued registration of a marketed product are recognized as marketing expenses. Costs for activities that are required by regulatory authorities as a condition for obtaining marketing approval are charged as development expenses as they are incurred in cases where it is anticipated that the related product will be sold over a longer period than the activities required to be performed to obtain the marketing approval. In the rare cases where costs related to the conditional approval need to be incurred over a period beyond that of the anticipated product sales, then the expected costs of these activities will be expensed over the shorter period of the anticipated product sales.

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IPR&D assets are amortized once the related project has been successfully developed and regulatory approval for a product launch obtained and acquired technologies are amortized over their estimated useful lives.

Taxes

We prepare and file our tax returns based on an interpretation of tax laws and regulations and record estimates based on these judgments and interpretations. Our tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. Inherent uncertainties exist in our estimates of our tax positions. We believe that our estimated amounts for current and deferred tax assets or liabilities, including any amounts related to any uncertain tax positions, are appropriate based on currently known facts and circumstances.

New accounting pronouncements

The following new or amended IFRS standard which, based on a Novartis analysis, is the only one of significance to the Group, has not yet been adopted.

In 2009, sections of IFRS 9 "*Financial Instruments: Classification and Measurement*" and "*Financial Assets*" were issued but only require to be adopted by January 1, 2013 although earlier adoption is permitted. This standard will substantially change the classification and measurement of financial instruments, hedging requirements and the recognition of certain fair value changes in the consolidated financial statements. Novartis is currently evaluating the potential impact that this standard will have on the Group's consolidated financial statements.

SEGMENT REPORTING

The wholly-owned businesses of Novartis are divided on a worldwide basis into four operating divisions (Pharmaceuticals, Vaccines and Diagnostics, Sandoz and Consumer Health) and Corporate activities. As of December 31, Novartis owned 77% of Alcon, Inc., an independent Swiss corporation, listed on the New York Stock Exchange, and it is treated as a separate segment. These segments reflect the Group's internal management structure. They are managed separately because they each manufacture, distribute and sell distinct products that require differing marketing strategies.

Inter-segmental sales are made at amounts considered to approximate arm's-length transactions. Currently, we principally evaluate segment performance and allocate resources based on operating income.

Pharmaceuticals Division

Pharmaceuticals researches, develops, manufactures, distributes, and sells branded prescription medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Integrated Hospital Care; and additional products. Pharmaceuticals is organized into global business franchises responsible for the development and marketing of various products as well as a business unit, called Novartis Oncology, responsible for the global development and marketing of oncology products. The Novartis Oncology Business Unit is not required to be disclosed separately as a segment since it shares common long-term economic perspectives, customers, research, development, production, distribution and regulatory factors with the rest of the division.

Pharmaceuticals is the largest contributor among the segments accounting in 2010 for $30.6 billion, or 60.3%, of net sales and for $8.8 billion, or 72.3%, of operating income (excluding Corporate Income & Expense, net).

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Vaccines and Diagnostics Division

Vaccines and Diagnostics researches, develops, manufactures, distributes and sells preventive vaccines and diagnostic tools. Novartis Vaccines is a leading global developer and manufacturer of human vaccines. Key products include influenza, meningococcal, pediatric and traveler vaccines.

Novartis Diagnostics is a blood testing and molecular diagnostics business dedicated to preventing the spread of infectious diseases through novel blood-screening tools that protect the world's blood supply.

In 2010, Vaccines and Diagnostics accounted for $2.9 billion, or 5.8%, of net sales and provided $612 million, or 5.0%, of operating income (excluding Corporate Income & Expense, net).

Sandoz Division

Sandoz is a leading global generic pharmaceuticals company that develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. Sandoz has activities in Retail Generics, Anti-Infectives, Biopharmaceuticals and Oncology Injectables (following the acquisition of EBEWE Pharma, which was completed in September 2009). In Retail Generics, Sandoz develops, manufactures, distributes and sells active ingredients and finished dosage forms of medicines, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops, manufactures, distributes and sells active pharmaceutical ingredients and intermediates, mainly antibiotics, for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops, manufactures, distributes and sells protein- or biotechnology-based products (known as "biosimilars" or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufactures, distributes and sells cytotoxic products for the hospital market.

Sandoz offers more than 1,000 compounds in more than 130 countries. Sandoz is the Group's second largest division, both in terms of contributions to net sales and operating income. In 2010, Sandoz accounted for $8.5 billion, or 16.8%, of net sales and for $1.3 billion, or 10.5% of operating income (excluding Corporate Income & Expense, net).

Consumer Health Division

Consumer Health consists of three Business Units: OTC (over-the-counter medicines), Animal Health and CIBA Vision. Each has its own research, development, manufacturing, distribution and selling capabilities. However, none are material enough to the Group to be separately disclosed as a segment. OTC offers readily available consumer medicine; Animal Health provides veterinary products for farm and companion animals; and CIBA Vision markets contact lenses and lens care products.

In 2010, Consumer Health accounted for $6.2 billion, or 12.3%, of net sales and for $1.2 billion, or 9.5%, of operating income (excluding Corporate Income & Expense, net).

Alcon. Inc.

Alcon, Inc. is an independent Swiss corporation listed on the New York Stock Exchange (NYSE: ACL), which discovers, develops, manufactures and markets innovative eye care products to improve the quality of life by helping people see better. Since our acquisition of Nestlé's remaining 52% interest in Alcon on August 25, 2010, Novartis became the majority owner of Alcon. With the achievement of the 77% majority ownership, Novartis and Alcon have sought to create greater value together for all stakeholders through collaborations that would benefit both companies. On December 15, 2010, Novartis announced that it had entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to clearance of a registration statement by the US Securities and Exchange Commission, two-thirds approval by the shareholders of each of Novartis and Alcon voting at their respective meetings, and other customary closing conditions. Since the achievement of the majority ownership, and until a

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100% merger is completed, all collaborations between the companies have been within the framework of arm's length transactions. In 2010, Alcon (consolidated since August 25, 2010) accounted for $2.4 billion, or 4.8%, of Group net sales, and for $323 million, or 2.7%, of Group operating income (excluding Corporate income and expense, net).

Corporate

Income and expenses relating to Corporate include the costs of our headquarters and corporate coordination functions in major countries. In addition, Corporate includes certain items of income and expense that are not attributable to specific divisions, including global IT infrastructure and corporate research. This latter activity will be reported in the Pharmaceuticals Division from January 1, 2011.

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FACTORS AFFECTING COMPARABILITY OF YEAR-ON-YEAR RESULTS OF OPERATIONS

Recent Acquisitions and Divestments

The comparability of the year-on-year results of our operations for the total Group can be significantly affected by acquisitions and divestments. For more detail how these actions have affected our results, see "Factors Affecting Results of Operations Acquisitions, Divestments and Other Significant Transactions" above.

RESULTS OF OPERATIONS

2010 Compared to 2009

Key Figures

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Net sales	**50,624**	**44,267**	**14**	**14**
Other Revenues	937	836	12	11
Cost of Goods Sold	(14,488)	(12,179)	19	19
Marketing & Sales	(13,316)	(12,050)	11	10
Research & Development	(9,070)	(7,469)	21	20
General & Administration	(2,481)	(2,281)	9	7
Other income	1,234	782	58	56
Other expense	(1,914)	(1,924)	(1)	(1)
Operating income	**11,526**	**9,982**	**15**	**17**
Income from associated companies	804	293	174	173
Financial income	64	198	(68)	(68)
Interest expense	(692)	(551)	26	25
Income before taxes	**11,702**	**9,922**	**18**	**19**
Taxes	(1,733)	(1,468)	18	18
Group net income	**9,969**	**8,454**	**18**	**20**
Attributable to:				
Shareholders of Novartis AG	*9,794*	*8,400*	*17*	*18*
Non-controlling interests	*175*	*54*	*224*	*226*
Basic earnings per share	**4.28**	**3.70**	**16**	**17**

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Core Key Figures

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Core operating income	**14,006**	**11,437**	**22**	**24**
Core net income	**12,029**	**10,267**	**17**	**18**
Core earnings per share	**5.15**	**4.50**	**14**	**15**

Currency Fluctuations

Significant changes in the value of the US dollar, our reporting currency, in 2010 against various currencies particularly the Swiss franc and euro had an overall negative currency translation effect on results of operations in 2010, and as a result affected the comparability of results of operations for 2010 with 2009. For more information, see "Effects of Currency Fluctuations" above.

Overview Results Operations

Strong growth in all businesses including the consolidation of Alcon, Inc. (Alcon) drove the Group's healthcare portfolio in 2010 to another year of record results.

Net sales rose 14% (+14% cc) to $50.6 billion driven by strong growth in all businesses, including $2.4 billion from the consolidation of Alcon. Recently launched products provided $10.4 billion of net sales in the 2010 period (excluding Alcon), representing 21% of net sales compared to 16% in the 2009 period. Pharmaceuticals sales expanded 7% (+6% cc) to $30.6 billion driven by 8 percentage points of volume expansion. Recently launched products contributed 21% of Pharmaceuticals sales, up from 16% in 2009. Sandoz achieved double-digit sales growth in 2010 ($8.5 billion, +14%, +15% cc) supported by strong growth in US retail generics and biosimilars (+46% cc) and emerging markets such as Middle East, Turkey and Africa (+22% cc). Vaccines and Diagnostics grew to $2.9 billion (+25% cc), including $1.3 billion of A (H1N1) pandemic flu vaccines. Excluding A (H1N1) pandemic flu vaccines, the business grew 16%. Consumer Health grew 7% (+6% cc) to $6.2 billion, with all three business units delivering solid growth in their respective markets.

Operating income rose 15% (+17% cc) to $11.5 billion on the volume-driven sales expansion. Unfavorable currency movements negatively impacted operating income by two percentage points. Operating income margin improved 0.3 percentage points to 22.8% of net sales. Exceptional items arising in the year totaled a net $1.3 billion, comprising: impairments ($1.0 billion), legal settlements ($240 million), restructuring costs ($198 million), and Alcon-related costs ($596 million), partially offset by divestment and pension curtailment gains ($690 million).

Core operating income rose 22% (+24% cc) to $14.0 billion, and the core operating income margin rose 1.9 percentage points to 27.7% of net sales. Included in the core operating margin improvement of 1.9 percentage points were a benefit from Alcon of 0.4 percentage points and higher A (H1N1) pandemic flu vaccine sales of 0.5 percentage points, resulting in the increase in the underlying margin of 1.0 percentage points.

Net income advanced 18% to $10.0 billion ahead of operating income growth due to higher income from associated companies (+173% cc), offset by higher financial expenses from the Alcon financing. Earnings per share (EPS) rose 16% (+17% cc) to $4.28 from $3.70 in the 2009 period. Core net income

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grew 17% (+18% cc) to $12.0 billion, while core EPS was up 14% (+15% cc) to $5.15 from $4.50 in the year-ago period.

Net Sales

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Pharmaceuticals	**30,558**	**28,538**	**7**	**6**
Vaccines and Diagnostics	**2,918**	**2,424**	**20**	**25**
Sandoz	**8,518**	**7,493**	**14**	**15**
Consumer Health	**6,204**	**5,812**	**7**	**6**
Total Novartis excl. Alcon, Inc.	**48,198**	**44,267**	**9**	**9**
Alcon, Inc.	**2,426**			
Net sales	**50,624**	**44,267**	**14**	**14**

Pharmaceuticals Division

Net sales expanded 7% (+6% cc) to $30.6 billion driven by 8 percentage points of volume expansion, partly offset by a negative pricing impact of 2 percentage points. Recently launched products provided $6.6 billion of net sales in the 2010 period, representing 21% of net sales compared to 16% in the 2009 period.

Europe remained the largest region ($10.9 billion, +7% cc) particularly benefiting from recently launched products generating 28% of its net sales. The US ($10.0 billion, +5% cc), as well as Latin America and Canada ($2.9 billion, +14% cc), maintained solid growth rates. Japan's performance ($3.3 billion, 0% cc) was flat versus the prior year due to the biannual price cuts and angiotensin receptor blockers (ARB) market slowdown. The top six emerging markets ($2.9 billion, +9% cc) were led by double-digit growth from India, Russia, South Korea and China, partly offset by the impact of cost-containment measures in Turkey.

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Top Twenty Pharmaceuticals Division Product Net Sales 2010

Brands	Therapeutic area	United States	Change in constant currencies	Rest of world	Change in constant currencies	Total	Change in $	Change in constant currencies
		$ millions	%	$ millions	%	$ millions	%	%
Diovan/Co-Diovan	Hypertension	2,520	1	3,533	(1)	6,053	1	
Gleevec/Glivec	Chronic myeloid leukemia	1,285	18	2,980	3	4,265	8	7
Lucentis	Age-related macular degeneration			1,533	24	1,533	24	24
Zometa	Cancer complications	721		790	4	1,511	3	2
Femara	Breast cancer	650	14	726	5	1,376	9	9
Sandostatin	Acromegaly	511	12	780	11	1,291	12	11
Exelon/Exelon Patch	Alzheimer's disease	379	5	624	6	1,003	5	6
Exforge	Hypertension	284	24	620	41	904	35	35
Neoral/Sandimmun	Transplantation	82	(9)	789	(6)	871	(5)	(7)
Voltaren (excl. OTC)	Inflammation/pain		nm	791		791	(1)	(1)
Top ten products total		6,432	7	13,166	5	19,598	6	6
Exjade	Iron chelator	264	7	498	22	762	17	16
Comtan/Stalevo	Parkinson's disease	231	6	369	8	600	8	8
Reclast/Aclasta	Osteoporosis	393	20	186	29	579	23	23
Ritalin/Focalin	Attention Deficit/Hyperactivity Disorder	339	(1)	125	15	464	3	3
Myfortic	Transplantation	163	21	281	25	444	26	23
Tekturna/Rasilez	Hypertension	207	29	231	83	438	51	53
Lescol	Cholesterol reduction	97	(20)	339	(25)	436	(23)	(24)
Tasigna	Chronic myeloid leukemia	134	116	265	78	399	88	89
Galvus	Diabetes			391	122	391	117	122
Xolair	Asthma	24	(73)	345	44	369	9	12
Top 20 products total		8,284	7	16,196	9	24,480	9	8
Rest of portfolio		1,759	(4)	4,319	1	6,078		(1)
Total Division sales		10,043	5	20,515	7	30,558	7	6

nm not meaningful

Pharmaceuticals Division product highlights Selected leading products

Notes: Net sales growth data refer to 2010 worldwide performance in constant currencies. Growth rates are not provided for some recently launched products since they are not meaningful.

Cardiovascular and Metabolism

Diovan ($6.1 billion, 0% cc) maintained sales in 2010 based on its status as the only medicine in the angiotensin receptor blocker (ARB) class approved to treat high blood pressure, high risk heart attack survivors and heart failure. Japan, which accounts for 20% of annual sales contracted slightly due to biannual price cuts, while sales also declined modestly in Europe, where the entry of generic versions of losartan, another medicine in the ARB segment, occurred in early 2010. In the US (+1%), *Diovan* increased its leadership of the ARB segment despite the overall shrinking of the branded anti-hypertension market due to increasing use of generic medicines in other anti-hypertensive classes.

Exforge ($904 million, +35% cc), a single-pill combination of the angiotensin receptor blocker *Diovan* (valsartan) and the calcium channel blocker amlodipine, has delivered above-market growth and set new standards for high blood pressure combination therapies since its launch in 2007. *Exforge* gained approval

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in Japan in January 2010. *Exforge HCT*, which adds a diuretic (hydrochlorothiazide), was launched in the US in 2009 and in Europe and Latin America in 2010 as a single-pill therapy with three medicines.

Tekturna/Rasilez ($438 million, +53% cc), the first in a new class of medicines known as direct renin inhibitors to treat high blood pressure, has been growing consistently since its launch in 2007 based on positive clinical data demonstrating its prolonged efficacy in lowering blood pressure for more than 24 hours and superiority in clinical trials over ramipril, a leading angiotensin converting enzyme (ACE) inhibitor. *Valturna* a single-pill combination with *Diovan* (valsartan) was launched in the US in late 2009, joining the group of single-pill combinations that involve aliskiren, the active ingredient in *Tekturna/ Rasilez. Tekamlo*, a single-pill combination of aliskiren and amlodipine was approved in the US in August, 2010. *Amturnide*, a triple combination with amlodipine and a diuretic was approved in the US in December 2010. EU reviews for the double combination of aliskiren and amlodipine as well as the triple combination incorporating a diuretic are ongoing in the EU. The EU application for *Rasival*, a combination of valsartan and aliskiren was withdrawn in September 2010.

Galvus/Eucreas ($391 million, +122% cc), oral treatments for type 2 diabetes, more than doubled sales in 2010 due to strong growth in many European, Latin American and Asia-Pacific markets since its launch in 2007. *Galvus* and *Eucreas*, a single-pill combination of *Galvus* with metformin that accounts for the majority of sales, have attained the highest sales in the DPP-4 market segment in some countries. *Galvus* was approved in Japan in January, 2010, under brand name *Equa*, and in November Novartis K.K. signed an agreement to co-promote the product in Japan with Sanofi-Aventis K.K.

Oncology

Gleevec/Glivec ($4.3 billion, +7% cc), a targeted therapy for some forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), maintained solid growth based on its leadership position in treating these cancers backed by new clinical data and regulatory approvals. *Gleevec/Glivec* was approved in 2009 was for use in adjuvant (post-surgery) GIST patients, which is now approved in 57 countries.

Tasigna ($399 million, +89% cc), has shown rapid growth as a next-generation targeted therapy for newly diagnosed CML patients following approvals in several key markets for this indication including the US, EU, Japan and Switzerland. *Tasigna* also gained increased share in imatinib resistant/intolerant patients. Trials are underway examining the use of *Tasigna* in CML with suboptimal response to *Glivec*, as well as a Phase III trial in patients with GIST.

Zometa ($1.5 billion, +2% cc), an intravenous bisphosphonate therapy for patients with certain types of cancer that has spread to the bones, is growing due to improved compliance and use in existing indications. Regulatory submissions in the US and EU for use of *Zometa* as an adjuvant therapy in pre- and post-menopausal women with breast cancer were withdrawn in Q4 2010 after the AZURE trial did not meet its primary endpoint in the overall population. However, in a pre-defined subgroup of women with well-established menopause, an improvement in disease-free survival was shown in the *Zometa* arm. Novartis will discuss future regulatory plans with health authorities based on these data. Zoledronic acid, the active ingredient in *Zometa* (4 mg), is also available under the trade names *Reclast/Aclasta* (5 mg) for use in non-oncology indications with different dosing. *Zometa* is facing new competition from denosumab, a product of Amgen.

Femara ($1.4 billion, +9% cc), a treatment for early stage or advanced breast cancer in postmenopausal women, achieved strong sustained growth in key markets. We anticipate new generic competition in the US in the first half of 2011 and later in the year in Europe's major markets thus significantly reducing future sales.

Sandostatin ($1.3 billion, +11% cc) benefited from the increasing use of *Sandostatin LAR* in treating symptoms of patients with neuroendocrine tumors (NET).

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Exjade ($762 million, +16% cc), continued to expand with strong growth based on new patients, expanded access and increased dosing in the US and key markets around the world. *Exjade* is currently approved in more than 100 countries, including China since June 2010, as the only once-daily oral therapy for transfusional iron overload.

Afinitor ($243 million), an oral inhibitor of the mTOR pathway used across multiple diseases, expanded its indications in the US with an accelerated FDA approval for the treatment of patients with subependymal giant cell astrocytomas (SEGA), a benign brain tumor associated with tuberous sclerosis requiring therapeutic intervention but who are not candidates for curative surgical resection. The effectiveness of *Afinitor* is based on a 28-patient Phase II study. A Phase III study has completed enrollment to further explore the clinical benefits of *Afinitor* for patients with SEGA associated with tuberous sclerosis. Regulatory submissions have been filed in the EU for this indication under the trade name *Votubia*. *Afinitor* is also an approved treatment for advanced renal cell carcinoma (kidney cancer) following VEGF-targeted therapy. The FDA granted *Afinitor* priority review status for the treatment of advanced neuroendocrine tumors (NET) and a decision is expected in 2011. Worldwide submissions for the treatment of patients with advanced NET are underway. Everolimus, the active ingredient in *Afinitor*, is also available under the trade names *Zortress*/*Certican* for use in non-oncology indications. Everolimus is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Neuroscience and Ophtalmics

Lucentis ($1.5 billion, +24% cc), a biotechnology eye therapy now approved in more than 85 countries, delivered sustained growth particularly in France, the United Kingdom, Canada and Japan. *Lucentis* is the only treatment proven to maintain and improve vision in patients with "wet" age-related macular degeneration, a leading cause of blindness in people over age 50. *Lucentis* was approved in January 2011 in Europe for the treatment of visual impairment due to diabetic macular edema (DME), an eye condition related to long-standing diabetes that may lead to blindness. In Q4 2010 Novartis filed an application in the EU for the treatment of visual impairment due to macular edema secondary to branch / central retinal vein occlusion. Genentech holds the US rights to this medicine.

Exelon/Exelon Patch ($1.0 billion, +6% cc), a therapy for mild to moderate forms of Alzheimer's disease dementia as well as dementia linked with Parkinson's disease, achieved blockbuster status in 2010. The majority of sales are for *Exelon* Patch, the novel skin patch launched in 2007, now available in more than 75 countries worldwide for Alzheimer's disease dementia, including more than 20 countries where it is also approved for dementia associated with Parkinson's disease.

Extavia ($124 million), for relapsing forms of multiple sclerosis (MS), was launched in 2009 in the US and more than 30 other countries, marked the entry of Novartis into the field of MS. *Extavia* is the Novartis-branded version of Betaferon®/Betaseron®.

Gilenya ($15 million) has launched as a first-line treatment for relapsing forms of MS in the US and for relapsing-remitting MS in Russia. It was also approved as a first-line treatment for relapsing forms of MS in Australia, Switzerland and the United Arab Emirates. *Gilenya* is currently under regulatory review in the EU, where it was filed in December 2009, and with health authorities worldwide, including Canada, Turkey and Brazil. Initial sales uptake in the US is in line with expectations with sales of $13 million since its launch in October 2010.

Comtan/Stalevo ($600 million, +8% cc), a treatment for Parkinson's disease, has grown mainly due to growing prescriber familiarity and continued geographical expansion of *Stalevo*, an enhanced levodopa therapy.

Respiratory

Xolair ($369 million, +12% cc, Novartis sales), a biotechnology drug for moderate to severe persistent allergic asthma in the US and severe persistent allergic asthma in Europe, maintained solid

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growth due to its global presence and approvals in more than 85 countries. A Phase III trial is progressing to support registration in China. *Xolair* Liquid, a new formulation in pre-filled syringes to enable easier administration than with the conventional lyophilized formulation, is expected to be launched in Europe in 2011. Novartis co-promotes *Xolair* with Genentech in the US and shares a portion of operating income.

Onbrez Breezhaler (QAB149, indacaterol) ($33 million) has demonstrated strong sales growth since its approval in the EU in November 2009 as a once-daily long-acting beta-2 agonist (LABA) for adults with chronic obstructive pulmonary disease (COPD). *Onbrez Breezhaler* is now approved in more than 40 countries and is available in 13 European markets, with further launches planned during 2011. In November 2010, Novartis announced results of the blinded Phase III INTENSITY study showing that *Onbrez Breezhaler* 150 mcg is as effective as tiotropium in improving lung function in patients with COPD, while providing greater clinical benefits in terms of reduced breathlessness, lower use of rescue medication and improved health status. The application for US approval (under the brand-name *Arcapta Neohaler*) is expected to be reviewed by an FDA Advisory Committee in March 2011.

Integrated Hospital Care

Reclast/Aclasta ($579 million, +23% cc), a once-yearly infusion therapy for osteoporosis, continues to expand on increasing patient access to infusion centers and a broad range of use in patients with various types of this debilitating bone disease. Approvals have been received in over 90 countries for up to six indications, including the treatment of osteoporosis in men and postmenopausal women. Six-year data from a pivotal fracture trial reinforced the long-term efficacy and safety profile of *Reclast/Aclasta*. Zoledronic acid, the active ingredient in *Reclast/Aclasta*, is also available in a number of countries in a different dosage for use in oncology indications under the trade name *Zometa*.

Zortress/Certican ($144 million, +25% cc), a transplantation medicine, generated solid growth based on its availability in more than 80 countries to prevent organ rejection in adult kidney and heart transplantation, including the US, where its was launched in April 2010 for adult kidney transplantation under the brand name *Zortress*. This medicine, which has the same active ingredient as *Afinitor* (everolimus), has been shown to have good immunosuppressive efficacy and a manageable side-effect profile.

Ilaris ($26 million) is a fully human monoclonal antibody that selectively binds and neutralizes interleukin-1ß (IL-1ß), a pro-inflammatory cytokine. Since 2009, *Ilaris* has been approved in over 40 countries for the treatment of children aged four years and older and adults suffering from cryopyrin-associated periodic syndrome (CAPS), a group of rare auto-inflammatory disorders that affect approximately one out of one million people. Novartis has filed for European regulatory approval of *Ilaris* for the treatment of gouty arthritis attacks based on data from two Phase III registration studies that met their primary endpoints. US submission is on track for the first quarter of 2011. Novartis is also pursuing other diseases in which IL-1ß is believed to play an important role, such as systemic juvenile idiopathic arthritis (SJIA) and cardiovascular indications. Select subsets of patients with these diseases would be eligible for treatment with *Ilaris*, if approved.

Neoral/Sandimmun ($871 million, -7% cc), for organ transplantation, has experienced modestly declining sales despite ongoing generic competition in recent years based on its pharmacokinetic profile, reliability and use in treating a life-threatening condition.

Myfortic ($444 million, +23% cc), a transplantation medicine, is approved in more than 90 countries for the prevention of acute rejection of kidney allografts and is indicated in combination with cyclosporine and corticosteroids. *Myfortic* was first approved in the US in 2004 and in the EU in 2003.

Other

Voltaren ($791 million, -1% cc, excluding OTC sales), a treatment for various inflammation and pain conditions, no longer has patent protection in key markets around the world, but has continued to

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generate growth in regions such as Latin America, the Middle East, Africa and Asia based on long-term trust in the brand.

Lescol ($436 million, -24% cc), a statin drug used to reduce cholesterol, has experienced declining sales in the US following the 2007 launch of a generic version of simvastatin, another medicine in this class. Europe and other regions also have been hurt by the entry of generic versions of rival drugs in this class. Loss of exclusivity and launch of generics in Europe and Japan have negatively impacted performance. Key emerging markets, including China are showing growth.

Ritalin/Focalin ($464 million, +3% cc), for treatment of Attention Deficit/Hyperactivity Disorder (ADHD), has benefited from use of the long-acting *Ritalin LA* and *Focalin XR* patent-protected formulations that involve methylphenidate, the active ingredient in *Ritalin* that has faced generic competition for some time in many countries.

Vaccines and Diagnostics Division

Net sales were $2.9 billion for 2010 (+25% cc) compared to $2.4 billion in 2009. Deliveries for supply contracts with governments around the world for A (H1N1) pandemic flu vaccines and adjuvants generated net sales of $1.3 billion, significantly driving the sales increase compared to 2009. Excluding the A (H1N1) pandemic flu, the business experienced strong growth (+16% cc) driven by the strong seasonal flu season, expansion of the vaccines business in emerging markets and launch of *Menveo*.

Sandoz Division

Sandoz achieved double-digit sales growth in 2010 ($8.5 billion, +14%, +15% cc) versus 2009 driven by strong growth in US retail generics and biosimilars (+46% cc) and emerging markets. Volume expanded 22 percentage points due to new product launches, the inclusion of EBEWE Pharma's specialty generics business (contributing 4 percentage points) and continued strong results from biosimilars which together more than compensated for price erosion of 7 percentage points. German retail generics and biosimilars declined by $100 million (-6% cc), as the market was impacted by numerous healthcare reforms.

US sales growth in 2010 was driven by successful execution of new product launches including enoxaparin ($462 million), tacrolimus ($184 million), losartan ($145 million), lansoprazole ($123 million) and gemcitabine ($58 million). Sandoz's enoxaparin exclusivity in the US could change at any time, whereas lansoprazole ODT and gemcitabine will face increased competition in the US in April and May 2011, respectively.

Biosimilar sales expanded rapidly (+63% cc) to $185 million.

Consumer Health Division

Sales grew 7% (+6% cc) to $6.2 billion and all Consumer Health businesses delivered growth ahead of their respective markets for 2010.

All regions contributed to sales growth in OTC (+5% cc), supported by double-digit growth of the key brands *Voltaren, Nicotinell* and *Excedrin. Pantoloc Control* was successfully launched in 14 European markets in 2010 and will continue to support growth in the gastrointestinal franchise. Retail sales of *Prevacid24HR* have driven the Novartis OTC business in the US to be the fastest growing in its peer group, while *Excedrin* established itself as a top four brand in its category and as the second fastest growing brand among its competitors.

CIBA Vision (+6% cc) continues to show robust growth in the growing contact lens and lens care markets on the strength of *Air Optix* across all regions. *Air Optix Aqua Multifocal* lens continues to grow after becoming the number one lens for presbyopic users in April 2010, less than 12 months after its

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launch. Launches of *FreshLook Illuminate* in Asia and Japan contributed to 2010 growth, and *ClearCare*, CIBA Vision's leading peroxide-based lens disinfectant solution, experienced its third year of double-digit growth as users continue to migrate to its clinically proven one-bottle regimen.

Animal Health growth (+7% cc) was led mainly by the strong performance of *Interceptor* and *Sentinel* in the US and *Milbemax* in Europe, as well as by the robust growth of cattle vaccines in the US livestock market. Overall, the cattle and sheep brands in key markets, including the US and Australia, and the companion animal parasiticides fueled the high-single-digit business growth in 2010.

The US business grew 6%, supported by a double-digit growth rate in CIBA Vision and a high-single digit growth rate in Animal Health. Net sales in the top six emerging markets experienced solid growth ($0.5 billion, +10% cc), with Russia, Turkey, India and South Korea standing out with double-digit growth rates.

Alcon, Inc.

Alcon's sales consolidated into Novartis Group results since August 25, 2010 totaled $2.4 billion. US sales of $1.0 billion accounted for 42% of total net sales, while non-US sales of $1.4 billion were 58% of total net sales. Sales in emerging markets continued to be strong, as they contributed $0.5 billion or 20% of total net sales. Pharmaceutical sales were $1.0 billion, Surgical sales were $1.1 billion and Consumer sales were $0.3 billion. Key product contributors to sales were the TRAVATAN® and Azopt® families of glaucoma products, Vigamox® for eye infections, Patanol® for eye allergies, AcrySof® intraocular lenses for cataract patients and OPTI-FREE®, EXPRESS®, and Replenish® contact lens disinfecting solutions.

Operating Income by Segments

	Year ended December 31, 2010	% of net sales	Year ended December 31, 2009	% of net sales	Change in $
	$ millions	%	$ millions	%	%
Pharmaceuticals	**8,798**	**28.8**	**8,392**	**29.4**	**5**
Vaccines and Diagnostics	**612**	**21.0**	**372**	**15.3**	**65**
Sandoz	**1,272**	**14.9**	**1,071**	**14.3**	**19**
Consumer Health	**1,153**	**18.6**	**1,016**	**17.5**	**13**
Alcon, Inc.	**323**	**13.3**			
Corporate income & expenses, net	(632)		(869)		
Operating income	**11,526**	**22.8**	**9,982**	**22.5**	**15**

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Core Operating Income by Segments

	Year ended December 31, 2010	% of net sales	Year ended December 31, 2009	% of net sales	Change in $
	$ millions	%	$ millions	%	%
Pharmaceuticals	**9,909**	**32.4**	**9,068**	**31.8**	**9**
Vaccines and Diagnostics	**1,066**	**36.5**	**719**	**29.7**	**48**
Sandoz	**1,685**	**19.8**	**1,395**	**18.6**	**21**
Consumer Health	**1,253**	**20.2**	**1,118**	**19.2**	**12**
Alcon, Inc.	**852**	**35.1**			
Corporate income & expenses, net	(759)		(863)		(12)
Core operating income	**14,006**	**27.7**	**11,437**	**25.8**	**22.0**

Pharmaceuticals Division

Operating income grew 5% (+6% cc) to $8.8 billion. The operating income margin of 28.8% of net sales was mainly impacted by R&D impairments of $896 million, litigation charges of $181 million and restructuring expenses of $111 million, partly offset by divestment income of $425 million and the *Famvir* settlement with Teva.

Core operating income grew 9% (+10% cc) ahead of sales to $9.9 billion. The core operating income margin of 32.4% of net sales improved 0.6 percentage points. Cost of Goods Sold remained broadly stable, while total functional costs improved as a percentage of net sales due to continuing productivity initiatives. Other Income and Expense increased as a percentage of sales mainly due to higher pre-launch inventory provisions.

Vaccines and Diagnostics Division

Operating income in the period was $612 million compared to $372 million in the year-ago period, driven substantially by increased contributions from A (H1N1) pandemic flu vaccines.

We continued to invest heavily in development of our late stage pipeline and increased marketing resources to successfully launch *Menveo* globally. 2010 operating income was additionally impacted by a $98 million impairment charge related to a financial asset, $52 million in restructuring charges related to consolidation of our manufacturing facilities and a $45 million legal settlement expense.

Despite heavy investment in R&D and marketing and sales, core operating income increased by 48% (+58% cc) to $1.1 billion, after adjusting for the impairment and restructuring charges and legal settlement above as well as the amortization of intangible assets.

Sandoz Division

Operating income grew 19% (+18% cc) versus 2009 to $1.3 billion. The operating income margin increased 0.6 percentage points to 14.9% of net sales, an all-time high for Sandoz. The operating income margin was negatively impacted by acquisition-related charges for the integration of EBEWE Pharma, one-time charges for the termination of a co-development agreement, provisions for legal settlements and higher levels of restructuring charges than 2009, totaling 0.6 percentage points of net sales.

Core operating income rose 21% (+21% cc) to $1.7 billion, as the core operating income margin improved by 1.2 percentage points to 19.8% of net sales. There were lower sales to other divisions and

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other revenues and higher Cost of Goods Sold. These impacts were more than offset by a number of positive factors, including: Marketing & Sales costs, which were lower as a percentage of sales due to productivity improvements partly offset by investments in growth areas; R&D costs, which decreased as a percentage of sales as reduced investments in standard generics and productivity savings funded increasing investment in the development of differentiated generics; General & Administration costs, which decreased as a percentage of sales due to ongoing cost reduction measures; and Other Income and Expense, which were positive due to lower legal fees.

Consumer Health Division

Operating income rose 13% (+17% cc) to $1.2 billion, with the operating income margin improving over 2009 by 1.1 percentage points, to 18.6% of net sales for 2010.

Excluding the impact of currency movements, the division showed strong operating leverage by growing operating income 17% in constant currencies, at nearly three times the rate of sales growth.

Core operating income rose 12% (+15% cc) to $1.3 billion, with strong operating leverage, driving the core operating income margin up 1.0 percentage points to 20.2% of net sales versus 2009. Gross margin improvements, productivity gains, and income from an OTC US non-core brand divestment have been the key growth drivers, partially offset by higher investments in Marketing & Sales to support new product launches and geographic expansion.

Alcon, Inc.

Alcon has contributed $323 million to Novartis operating income since its consolidation from August 25, 2010.

This amount includes an additional charge of $467 million relating to the estimated fair value revaluation of inventory as of the change in majority ownership date; $32 million for amortization of intangible assets; and $30 million of costs resulting from the change in majority ownership.

Excluding these items, core operating income totaled $852 million.

Corporate Income & Expense, Net

Corporate income & expense includes the costs of Group headquarters and costs for corporate research. These net expenses of $632 million are 27% less than the prior year primarily due to the impact of an exceptional pension curtailment gain of $265 million arising from changing the conditions of the Swiss pension plan offset by $99 million of stamp duty and transaction expenses related to the acquisition of the additional 52% interest in Alcon.

Excluding these, corporate income & expense fell 8% compared to the prior year. From January 1, 2011, corporate research will be reported under the Pharmaceuticals Division. These research costs totaled $195 million in 2010.

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Other Revenues and Operating Expenses

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $
	$ millions	$ millions	%
Net sales	**50,624**	**44,267**	**14**
Other revenues	937	836	12
Cost of Goods Sold	(14,488)	(12,179)	19
Marketing & Sales	(13,316)	(12,050)	11
Research & Development	(9,070)	(7,469)	21
General & Administration	(2,481)	(2,281)	9
Other income	1,234	782	58
Other expense	(1,914)	(1,924)	(1)
Operating income	**11,526**	**9,982**	**15**

Core Other Revenues and Operating Expenses

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $
	$ millions	$ millions	%
Net sales	**50,624**	**44,267**	**14**
Other revenues	937	808	16
Cost of Goods Sold	(13,044)	(11,292)	16
Marketing & Sales	(13,315)	(12,050)	10
Research & Development	(8,080)	(7,287)	11
General & Administration	(2,477)	(2,281)	9
Other income	485	717	(32)
Other expense	(1,124)	(1,445)	(22)
Core operating income	**14,006**	**11,437**	**22**

Other Revenues

Other revenues rose 12% to $0.9 billion mainly due to increased royalty income in Pharmaceuticals. Other revenues also included profit contributions from sales of the asthma medicine *Xolair* in the US, where it is co-marketed and co-developed in collaboration with Roche-Genentech.

Cost of Goods Sold

Cost of Goods Sold rose 19% to $14.5 billion in 2010, increasing by 1.1 percentage points to 28.6% of net sales mainly as a result of changes to the Group's portfolio mix (consolidation of Alcon) and price reductions, partially offset by productivity savings and lower sourcing costs. Excluding Alcon, COGS increases by 10% or 0.3 percentage points to 27.8% of sales.

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Cost of Goods Sold in core results, which excludes $1.0 billion of amortization and impairment of intangible assets and $0.5 billion of inventory step-up to estimated fair value in Alcon, increased broadly in line with sales, by 16% to $13.0 billion.

Marketing & Sales

Marketing & Sales rose 11% to $13.3 billion, improving 0.9 percentage points to 26.3% of net sales, as productivity improvements across the Group and changes in the portfolio mix (consolidation of Alcon) were offset slightly by investments in new launch products. Excluding Alcon, Marketing and Sales rose 6% to $12.7 billion. For core results, Marketing & Sales rose 10% to $13.3 billion.

Research & Development

Research & Development expenses increased significantly, by 21% in 2010, to $9.1 billion. This included $0.9 billion in impairments of intangible assets related to acquired in-process R&D mainly due to the discontinuation of *Mycograb*, albinterferon alfa-2b, PTZ601 and ASA404. Excluding these and certain other costs, core R&D investment increased 11% to $8.1 billion and represented 16.0% of net sales in 2010 compared to 16.5% in 2009.

General & Administration

General & Administration expenses increased at a slower pace than sales, up 9% to $2.5 billion in 2010 from the benefits of productivity gains and good cost management across all divisions, with core results showing the same trends.

Other Income and other Expense

Other income, which largely consists of gains from the disposal of intangible assets and property, plant & equipment, rose by $452 million to $1.2 billion in 2010. For core results, other income excludes $739 million in exceptional gains (e.g. $392 million for the divestment of *Enablex* and a Swiss pension fund curtailment gain of $265 million) and fell by 32% compared to 2009 to $485 million, since the prior year only excluded $65 million of divestment gains. Other expense, which largely consists of litigation settlement costs, impairment of financial assets and pension expenses, were flat at $1.9 billion in 2010. For core results, which eliminate exceptional charges exceeding a $25 million threshold, other expense was down 22% on a comparable basis to $1.1 billion in 2010.

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Non-Divisional Income & Expense

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $
	$ millions	$ millions	%
Operating income	**11,526**	**9,982**	**15**
Income from associated companies	804	293	174
Financial income	64	198	(68)
Interest expense	(692)	(551)	26
Income before taxes	**11,702**	**9,922**	**18**
Taxes	(1,733)	(1,468)	18
Group net income	**9,969**	**8,454**	**18**
Attributable to:			
Shareholders of Novartis AG	*9,794*	*8,400*	*17*
Non-controlling interests	*175*	*54*	*224*
Basic EPS ($)	4.28	3.70	16

Core Non-Divisional Income & Expense

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $
	$ millions	$ millions	%
Core operating income	**14,006**	**11,437**	**22**
Income from associated companies	1,041	1,051	(1)
Financial income	64	198	(68)
Interest expense	(692)	(551)	26
Core income before taxes	**14,419**	**12,135**	**19**
Taxes	(2,390)	(1,868)	28
Core net income	**12,029**	**10,267**	**17**
Attributable to:			
Shareholders of Novartis AG	*11,767*	*10,213*	*15*
Non-controlling interests	*262*	*54*	*385*
Core basic EPS ($)	5.15	4.50	14

Income from Associated Companies

Associated companies are accounted for using the equity method when Novartis holds between 20% and 50% of the voting shares of these companies, or where Novartis has otherwise significant influence over them. Income from associated companies is mainly derived from the Group's investments in Roche Holding AG and, prior to August 25, 2010, Alcon, Inc. (Alcon).

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The income from associated companies for 2010 increased from $293 million to $804 million. The increase is attributable to higher contributions from the Alcon and Roche investments due to exceptional charges incurred in the prior year period as well as the net revaluation gain of $335 million on the initial 25% Alcon interest acquired on July 7, 2008.

The following is a summary of the individual components included in the income from associated companies:

	2010	2009
	$ millions	$ millions
Share of estimated Roche reported net income	648	593
Catch-up for actual Roche previous year net income		(40)
Restructuring impact (2010 includes $43 million from 2009)	(132)	(97)
Amortization of intangible assets	(136)	(135)
Net income effect from Roche	**380**	**321**
Share of Alcon net income	385	493
Catch-up for actual Alcon previous year net income	2	5
Revaluation of initial 25% interest to deemed fair value	378	
Recycling of losses accumulated in comprehensive income from July 7, 2008 to August 25, 2010	(43)	
Intangible asset impairment charge		(92)
Amortization of intangible assets	(289)	(434)
Net income effect from Alcon (in 2010 up to August 25, 2010)	**433**	**(28)**
Net income from other associated companies	**(9)**	
Income from associated companies	**804**	**293**

The Group's 33.3% interest in Roche's voting shares, which represents a 6.3% interest in Roche's total equity, generated income of $380 million in 2010, up from $321 million in 2009. The 2010 contribution reflects an estimated $648 million share of Roche's net income in 2010. This contribution, however, was reduced by $136 million for the amortization of intangible assets arising from the allocation of the purchase price paid by Novartis for this investment to Roche's intangible assets and an exceptional charge of $132 million taken in 2010 as part of Roche's restructuring charges.

Alcon accounted for as an associated company until August 25, 2010 and thereafter fully consolidated, contributed $433 million compared to a loss of $28 million in the prior year period. Included in this total is a net revaluation gain of $335 million to the fair value of the initial 25% Alcon, Inc interest acquired on July 7, 2008, required as a result of acquiring majority control on August 25, 2010. The 2010 result includes the actual net income up to August 25, 2010 of $385 million from Alcon and a positive prior-year adjustment of $2 million which were reduced by $289 million for the amortization of intangible assets and other charges.

Adjusting for the exceptional items in both years, core income from associated companies decreased 1% to $1.0 billion.

A survey of analyst estimates is used to estimate the Group's share of net income in Roche. Any differences between these estimates and actual results will be adjusted in the 2011 financial statements.

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Financial Income and Interest Expense

Financial income decreased by 68% to $64 million in 2010. In order to accommodate the payment for the Alcon acquisition financial investments were kept short-term which resulted in lower yields. Interest expense increased by 26% to $692 million in 2010 as a result of the issuance of US dollar bonds in February 2009 and March 2010, a euro bond in June 2009 and the increase of short-term debts through the commercial paper program.

Taxes

Tax expenses in 2010 were $1.7 billion, a 18% increase from 2009. The tax rate (taxes as a percentage of pre-tax income) remained at the 2009 rate of 14.8%. The effective tax rate is different than the expected tax rate due to various adjustments made to the IFRS results to arrive at taxable income. For further information on the main elements contributing to the difference, see note 6 to the Group's consolidated financial statements.

Excluding the impact of consolidating Alcon, the Group's full year tax rate would have been 16.3%, which is higher than 2009 as it reflects the impact of sales from A (H1N1) pandemic flu vaccines and other sales being recorded in higher tax jurisdictions.

Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally this results in amortization of intangible assets and acquisition-related restructuring and integration items having a full tax impact. Tax impacts on impairment charges can only be taken into account if the changes in value in the underlying asset are tax deductible in the respective jurisdiction where the asset is recorded. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $2.7 billion to arrive at the core results before tax, amounts to $657 million. This results in the average tax rate on the adjustments being 24.2%.

Net Income

Net income rose 18% to $10.0 billion in 2010. Core net income was up 17% to $12.0 billion.

Basic Earnings per Share

Basic earnings per share were $4.28, up 16% from $3.70 in 2009, but less than the net income increase due to higher income attributable to non-controlling interests. Core earnings per share grew 14% to $5.15 in 2010 from $4.50 in 2009.

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2009 Compared to 2008

Key Figures

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $
	$ millions	$ millions	%
Net sales	**44,267**	**41,459**	**7**
Other revenues	836	1,125	(26)
Cost of goods sold	(12,179)	(11,439)	6
Marketing & sales	(12,050)	(11,852)	2
Research & development	(7,469)	(7,217)	3
General & administration	(2,281)	(2,245)	2
Other income	782	826	(5)
Other expense	(1,924)	(1,693)	14
Operating income	**9,982**	**8,964**	**11**
Income from associated companies	293	441	(34)
Financial income	198	384	(48)
Interest expense	(551)	(290)	90
Income before taxes	**9,922**	**9,499**	**4**
Taxes	(1,468)	(1,336)	10
Net income from continuing operations	**8,454**	**8,163**	**4**
Net income from discontinued operations		70	
Group net income	**8,454**	**8,233**	**3**
Attributable to:			
Shareholders of Novartis AG	*8,400*	*8,195*	*3*
Non-controlling interests	*54*	*38*	*42*
Basic earnings per share from continuing operations ($)	**3.70**	**3.59**	**3**

Core Key Figures

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $
	$ millions	$ millions	%
Core net sales	**44,267**	**41,305**	**7**
Core operating income	**11,437**	**10,319**	**11**
Core net income	**10,267**	**9,501**	**8**
Core basic earnings per share ($)	**4.50**	**4.18**	**8**

Overview Results Operations

The underlying double-digit expansion in Pharmaceuticals, ranked as one of the industry's fastest-growing businesses based on market share, led the Group's healthcare portfolio in 2009 to another year of

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record results. Vaccines and Diagnostics achieved exceptionally high sales by rapidly developing and delivering influenza A (H1N1) pandemic vaccines to address the public health threat.

Net sales rose 7% (+11% in constant currencies, cc) to $44.3 billion on the underlying expansion in all divisions: Pharmaceuticals (+12% cc), Vaccines and Diagnostics (+39% cc), Sandoz (+5% cc) and Consumer Health (+5% cc). Top-performing regions included Europe ($18.4 billion, +10% cc) and the United States ($14.3 billion, +11% cc) as well as the top six emerging markets ($4.0 billion, +17% cc) of Brazil, China, India, Russia, South Korea and Turkey. Higher volumes contributed 10 percentage points of growth, while acquisitions and price changes together added one percentage point of sales growth. The stronger US dollar compared to 2008 reduced full-year growth by four percentage points.

Operating income grew 11% to $10.0 billion in 2009, which resulted in the operating income margin rising to 22.5% of net sales from 21.6% in 2008. The stronger US dollar compared to 2008 reduced operating income growth by nine percentage points. Core operating income, which excludes exceptional items and amortization of intangible assets in both periods, grew 11% to $11.4 billion on improvements in Pharmaceuticals and Vaccines and Diagnostics as well as productivity gains in all divisions. The core operating income margin rose to 25.8% of net sales from 25.0% in 2008.

Net income rose 4% to $8.5 billion, while basic EPS was up 3% to $3.70. Core net income of $10.3 billion (+8%) rose at a slower pace than operating income as increased contributions from associated companies were partially reduced by Alcon-related financing costs. Core earnings per share were $4.50 in 2009, up from $4.18 in 2008.

Net Sales

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Pharmaceuticals	**28,538**	**26,331**	**8**	**12**
Vaccines and Diagnostics	**2,424**	**1,759**	**38**	**39**
Sandoz	**7,493**	**7,557**	**(1)**	**5**
Consumer Health	**5,812**	**5,812**		**5**
Net sales	**44,267**	**41,459**	**7**	**11**

Pharmaceuticals Division

All geographic regions and therapeutic areas contributed to the double-digit expansion in constant currencies, driven by recently launched products ($4.7 billion, +81% cc) that increased their share of net sales to 16% in 2009 from 10% in 2008. This group of rapidly growing products including *Lucentis, Exforge, Exjade, Exelon* Patch, *Reclast/Aclasta, Tekturna/Rasilez, Afinitor* and *Ilaris* provided eight percentage points of the division's 12% cc net sales growth in 2009.

Oncology ($9.0 billion, +14% cc) remained the largest franchise and ranks No. 2 in the global oncology segment, led by sustained growth of *Gleevec/Glivec* ($3.9 billion, +12% cc) and three additional products *Zometa, Femara* and *Sandostatin* that each achieved more than $1 billion of sales. *Exforge* and *Tekturna/Rasilez* (high blood pressure) and *Galvus* (type 2 diabetes) drove expansion of Cardiovascular and Metabolism ($8.8 billion, +9% cc), complementing *Diovan* ($6.0 billion, +6% cc) as Novartis expanded its position as the global leader in hypertension. *Lucentis* ($1.2 billion, +47% cc) and *Exelon* ($954 million, +22% cc) fueled growth in Neuroscience and Ophthalmics ($4.9 billion, +12% cc).

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All regions benefited from the product portfolio transformation, particularly Europe ($10.5 billion, +12% cc) as the largest region and generating more than 20% of sales from recently launched products. Also delivering top performances were Latin America and Canada ($2.5 billion, +13% cc), while the US ($9.5 billion, +11% cc) and Japan ($3.1 billion, +9% cc) both showed renewed growth. All six top emerging markets ($2.6 billion, +19% cc) Brazil, China, India, Russia, South Korea and Turkey advanced at robust double-digit rates.

Top Twenty Pharmaceuticals Division Product Net Sales 2009

Brands	Therapeutic area	United States $ millions	Change in constant currencies %	Rest of world $ millions	Change in constant currencies %	Total $ millions	Change in $ %	Change in constant currencies %
Diovan/Co-Diovan	Hypertension	*2,492*	*4*	*3,521*	*7*	*6,013*	*5*	*6*
Gleevec/Glivec	Chronic myeloid leukemia	*1,088*	*21*	*2,856*	*9*	*3,944*	*7*	*12*
Zometa	Cancer complications	*718*	*8*	*751*	*9*	*1,469*	*6*	*9*
Femara	Breast cancer	*572*	*18*	*694*	*14*	*1,266*	*12*	*16*
Lucentis	Age-related macular degeneration			*1,232*	*47*	*1,232*	*39*	*47*
Sandostatin (group)	Acromegaly	*458*	*6*	*697*	*8*	*1,155*	*3*	*7*
Exelon (group)	Alzheimer's disease	*362*	*30*	*592*	*18*	*954*	*17*	*22*
Neoral/Sandimmun	Transplantation	*90*	*(8)*	*829*		*919*	*(4)*	*(1)*
Voltaren (group)	Inflammation/pain	*5*		*792*	*1*	*797*	*(2)*	*1*
Exforge (group)	Hypertension	*229*	*53*	*442*	*83*	*671*	*65*	*72*
Top ten products total		**6,014**	**11**	**12,406**	**13**	**18,420**	**9**	**12**
Exjade (group)	Iron chelator	*247*	*16*	*405*	*34*	*652*	*23*	*27*
Lescol	Cholesterol reduction	*121*	*(21)*	*442*	*(8)*	*563*	*(13)*	*(11)*
Comtan/Stalevo (group)	Parkinson's disease	*217*	*9*	*337*	*17*	*554*	*10*	*14*
Aclasta	Osteoporosis	*328*	*84*	*144*	*97*	*472*	*86*	*88*
Ritalin (group)	Attention Deficit/ Hyperactive Disorder	*343*	*(1)*	*106*	*21*	*449*	*2*	*4*
Tegretol (incl. CR/XR)	Epilepsy	*91*	*(38)*	*284*	*(1)*	*375*	*(17)*	*(13)*
Foradil	Asthma	*14*		*343*	*3*	*357*	*(8)*	*3*
Myfortic	Transplantation	*135*	*42*	*218*	*22*	*353*	*22*	*28*
Xolair	Asthma	*90*	*181*	*248*	*45*	*338*	*60*	*65*
Lotrel	Hypertension	*322*	*(17)*			*322*	*(17)*	*(17)*
Top 20 products total		**7,922**	**10**	**14,933**	**13**	**22,855**	**9**	**12**
Rest of portfolio		*1,620*	*13*	*4,063*	*10*	*5,683*	*7*	*11*
Total Division net sales		**9,542**	**11**	**18,996**	**12**	**28,538**	**8**	**12**

Pharmaceuticals Division product highlights Selected leading products

Notes: Net sales growth data refer to 2009 worldwide performance in constant currencies. Growth rates are not provided for some recently launched products since they are not meaningful.

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Cardiovascular and Metabolism

Diovan ($6.0 billion, +6% cc) achieved solid worldwide growth based on its status as the only medicine in the angiotensin receptor blocker (ARB) class approved to treat high blood pressure, high-risk heart attack survivors and heart failure. Japan now accounts for 20% of annual sales, while growth was seen in Europe, where the expected entry of generic versions of losartan, another medicine in the ARB segment, was delayed until the first half of 2010. In the US (+4%), *Diovan* increased its leadership of the ARB segment despite the overall shrinking of the branded anti-hypertension market due to increasing use of generic medicines in other anti-hypertensive classes.

Exforge ($671 million, +72% cc), a single-pill combination of the angiotensin receptor blocker *Diovan* (valsartan) and the calcium channel blocker amlodipine, has delivered above-market growth and set new standards for high blood pressure combination therapies since its launch in 2007. *Exforge HCT*, which adds a diuretic, was launched in the US in April 2009 as a single-pill therapy with three medicines.

Tekturna/Rasilez ($290 million, +104% cc), the first in a new class of medicines known as direct renin inhibitors to treat high blood pressure, has been growing consistently since its launch in 2007 based on positive clinical data demonstrating its prolonged efficacy in lowering blood pressure for more than 24 hours and superiority in clinical trials over ramipril, a leading ACE inhibitor. *Valturna* a single-pill combination with *Diovan* (valsartan) was launched in the US in late 2009, joining the group of single-pill combinations that involve aliskiren, the active ingredient in *Tekturna/Rasilez*. A single-pill combination of aliskiren and amlodipine was submitted for US and European approvals in 2009, and a triple-combination with amlodipine and a diuretic is expected to be submitted in 2010.

Lotrel ($322 million, -17% cc, only in the US), a single-pill combination therapy for high blood pressure, still has market exclusivity for higher-dose formulations, but sales contributions have fallen sharply after an "at risk" launch in mid-2007 by a generic competitor despite a US patent valid until 2017.

Galvus/Eucreas ($181 million, +327% cc), oral treatments for type 2 diabetes, have achieved rapid success in many European, Latin American and Asia-Pacific markets since first launched in 2007. *Galvus* and *Eucreas*, a single-pill combination of *Galvus* with metformin that accounts for the majority of sales, have outperformed a competitor medicine in the DPP-4 segment in some countries. *Galvus* was approved in Japan in January 2010 with the brand name *Equa.*

Oncology

Gleevec/Glivec ($3.9 billion, +12% cc), a targeted therapy for some forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), achieved sustained double-digit growth based on its leadership position in treating these cancers backed by new clinical data and regulatory approvals. The latest approval in 2009 was for use in adjuvant (post-surgery) GIST patients, which is now approved in more than 55 countries in North America, Europe and Asia-Pacific.

Tasigna ($212 million, +145% cc), a second-line therapy for patients with a form of chronic myeloid leukemia (CML) resistant or intolerant to prior therapy, including *Gleevec/Glivec*, has gained rapid acceptance following its approval in more than 80 countries. In December 2009, *Tasigna* was submitted for US and European regulatory approvals for first-line use in CML after new data from the global ENESTnd trial, the largest head-to-head comparison of a targeted therapy against *Glivec* ever conducted, showed *Tasigna* produced faster and deeper responses than *Glivec* in newly diagnosed CML patients. Trials are underway examining the use of *Tasigna* in CML with suboptimal response to *Glivec,* as well as a Phase III trial in patients with GIST.

Zometa ($1.5 billion, +9% cc), an intravenous bisphosphonate therapy for patients with certain types of cancer that has spread to bones, is growing due to improved compliance and use in existing indications. US and European regulatory submissions were completed in late 2009 for the use of *Zometa* in adjuvant

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breast cancer in premenopausal women based on published anticancer data for this indication. Studies are underway to review potential benefits in other tumor types.

Femara ($1.3 billion, +16% cc), an oral therapy for postmenopausal women with hormone-sensitive breast cancer, saw strong sales growth in 2009 due to growth in the initial adjuvant (post-surgery) setting. In August 2009, "The New England Journal of Medicine" published results from the landmark BIG 1-98 study affirming that the five-year upfront use of *Femara* after surgery was an optimal treatment approach for postmenopausal women with early-stage, hormone-receptor positive breast cancer. These data were submitted in the US and Europe for inclusion in product information.

Sandostatin ($1.2 billion, +7% cc), for patients with acromegaly and symptoms associated with neuroendocrine tumors of the gastrointestinal tract and pancreas, has grown from increasing use of *Sandostatin LAR*, the once-monthly version that accounts for nearly 90% of net sales. Recent clinical trial data demonstrated a significant delay in tumor progression in patients with metastatic neuroendocrine tumors of the midgut treated with *Sandostatin LAR*. These data formed the basis of a recent US National Comprehensive Cancer Network (NCCN) update on treatment guidelines for neuroendocrine tumors.

Exjade ($652 million, +27% cc), currently approved in more than 90 countries as the only once-daily oral therapy for transfusional iron overload, received regulatory approvals in 2009 in the US, Europe, Switzerland and other countries to extend the dose range to 40 mg/kg. This new dosing range provides a new option to patients who require dose intensification due to high iron burdens. Novartis submitted new safety information to health authorities worldwide in mid-2009. The new labeling was approved in Europe in November, providing new guidance on the selection of appropriate myelodysplastic syndrome (MDS) and malignant disease patients for *Exjade* therapy. US and Japanese regulatory authorities are also reviewing this data.

Afinitor ($70 million), an oral inhibitor of the mTOR pathway, was launched in the US, Europe and Switzerland after gaining regulatory approvals in 2009 as a treatment for advanced renal cell carcinoma (RCC, kidney cancer) following VEGF-targeted therapy. *Afinitor* is being studied in many cancer types. Phase III studies are underway in patients with neuroendocrine tumors (NET), breast cancer, lymphoma, tuberous sclerosis complex (TSC) and gastric cancer. Two potential regulatory submissions are planned for 2010 based on the outcome of clinical trials of this medicine in patients with neuroendocrine tumors (NET) as well as tuberous sclerosis complex (TSC). A late-stage trial is planned to start in patients with hepatocellular carcinoma (HCC) in early 2010. The active ingredient, everolimus, is the same as in the transplant therapy *Certican*.

Other Pharmaceuticals products

Lucentis ($1.2 billion, +47% cc), a biotechnology eye therapy now approved in more than 80 countries, delivered sustained growth on top performances in France, the United Kingdom, Australia and Japan. *Lucentis* is the only treatment proven to maintain and improve vision in patients with "wet" age-related macular degeneration, a leading cause of blindness in people over age 50. *Lucentis* was submitted in December 2009 for European regulatory approval for treatment of visual impairment due to diabetic macular edema (DME), an eye condition related to longstanding diabetes that may lead to blindness. Late-stage clinical trials are underway in other eye conditions. Genentech holds the US rights to this medicine.

Exelon/Exelon Patch ($954 million, +22% cc), a therapy for mild to moderate forms of Alzheimer's disease dementia as well as dementia linked with Parkinson's disease, achieved more than half of its sales from *Exelon* Patch, the novel skin patch launched in late 2007 that is now available in more than 60 countries worldwide.

Neoral/Sandimmun ($919 million, -1% cc), for organ transplantation, has experienced modestly declining sales despite ongoing generic competition in recent years based on its pharmacokinetic profile, reliability and use in treating a life-threatening condition.

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Voltaren ($797 million, +1% cc, excluding OTC sales), a treatment for various inflammation and pain conditions, no longer has patent protection in key markets around the world, but has continued to generate growth in regions such as Latin America, the Middle East, Africa and Asia based on long-term trust in the brand.

Lescol ($563 million, -11% cc), a statin drug used to reduce cholesterol, has experienced declining sales in the US following the 2007 launch of a generic version of simvastatin, another medicine in this class. Europe and other regions also have been hurt by the entry of generic versions of rival drugs in this class.

Comtan/Stalevo ($554 million, +14% cc), a treatment for Parkinson's disease, has grown mainly due to growing prescriber familiarity and continued geographical expansion of *Stalevo*, an enhanced levodopa therapy.

Reclast/Aclasta ($472 million, +88% cc), a once-yearly infusion therapy for osteoporosis, continues to expand on increasing patient access to infusion centers and a broad range of use in patients with various types of this debilitating bone disease. Approvals have been received for up to six indications, including the treatment of osteoporosis in men and postmenopausal women.

Ritalin/Focalin ($449 million, +4% cc), for treatment of Attention Deficit/Hyperactivity Disorder (ADHD), has benefited from use of the long-acting *Ritalin LA* and *Focalin XR* patent-protected versions that involve methylphenidate, the active ingredient in Ritalin that has faced generic competition for some time in many countries.

Xolair ($338 million, +65% cc, Novartis sales), a biotechnology drug for moderate to severe persistent allergic asthma in the US and severe persistent allergic asthma in Europe, maintained solid growth due to its global presence and approvals in more than 80 countries, including Japan since early 2009. In August 2009, *Xolair* received European regulatory approval to treat children age six and older. Novartis co-promotes *Xolair* with Genentech in the US and shares a portion of operating income. In 2009, Genentech's US sales were $571 million.

Certican ($118 million, +31% cc), a transplantation medicine, generated solid growth based on its availability in more than 70 countries. In the US, the FDA issued a Complete Response letter in December 2009 for this medicine (under brand name *Zortress*), for prevention of organ rejection in adult kidney transplant patients. The FDA discussions focus on product labeling and a Risk Evaluation Mitigation Strategy (REMS) as well as a safety update, but no request for more clinical studies. This medicine, which has the same active ingredient as *Afinitor (*everolimus), has been shown to have good immunosuppressive efficacy and a manageable side-effect profile.

Extavia ($49 million), for relapsing forms of multiple sclerosis (MS), was launched in 2009 in the US and more than 20 other countries, marking the entry of Novartis into the field of MS. *Extavia* is the Novartis-branded version of Betaferon®/Betaseron®.

Ilaris, a fully human monoclonal antibody that blocks action of the inflammatory protein interleukin-1 beta, has been launched after receiving first regulatory approvals during 2009 in the US, Europe and some other markets for treatment of cryopyrin-associated periodic syndrome (CAPS), a group of rare auto-inflammatory disorders. Trials are ongoing in other diseases in which IL-1 beta is believed to play an important role. Other diseases include refractory gout, chronic obstructive pulmonary disease (COPD), type 2 diabetes and systemic juvenile idiopathic arthritis (SJIA).

Vaccines and Diagnostics Division

A rapid response after the outbreak of the A (H1N1) pandemic in April 2009 enabled Vaccines and Diagnostics to deliver more than 100 million vaccine doses to governments around the world in only a few months, providing $1.0 billion of net sales from pandemic vaccines and adjuvants. Pediatric vaccines and

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strong growth in emerging markets helped offset price pressure on seasonal influenza vaccines and a decline in tick-borne encephalitis vaccines in Europe. Diagnostics sales were slightly lower.

Sandoz Division

Consistent growth in 2009 at a stronger pace than in 2008 reflected the impact of new product launches, a sharper commercial focus in both mature and emerging markets, and the US returning to growth. To the benefit of customers, a price decline of seven percentage points from price erosion was more than offset by volume growth of 11 percentage points from new product launches. Retail generics and biosimilars in Germany (+4% cc) reached a leading 29% share from new product launches and volume growth in a challenging market. A total of 25 new product launches, eight more than in 2008, underpinned US retail generics and biosimilars (+5% cc). Asia-Pacific (+17% cc) and Russia (+19% cc) were also among top performers. The EBEWE acquisition in September provided a strong platform for growth in injectable oncology medicines.

Consumer Health Division

All businesses achieved faster underlying growth than their respective markets despite the difficult economic conditions. CIBA Vision was the industry's fastest-growing contact lens and lens care company on the strength of new product introductions. OTC delivered an increasingly positive performance, driven by portfolio innovation and the successful US launch of *Prevacid 24HR* in November 2009. Animal Health grew ahead of the competition in the US.

Operating Income by Segments

	Year ended December 31, 2009	% of net sales	Year ended December 31, 2008	% of net sales	Change in $
	$ millions	%	$ millions	%	%
Pharmaceuticals	**8,392**	**29.4**	**7,579**	**28.8**	**11**
Vaccines and Diagnostics	**372**	**15.3**	**78**	**4.4**	**377**
Sandoz	**1,071**	**14.3**	**1,084**	**14.3**	**(1)**
Consumer Health	**1,016**	**17.5**	**1,048**	**18.0**	**(3)**
Corporate income & expense, net	(869)		(825)		
Operating income	**9,982**	**22.5**	**8,964**	**21.6**	**11**

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Core Operating Income by Segments

	Year ended December 31, 2009	% of net sales	Year ended December 31, 2008	% of net sales	Change in $
	$ millions	%	$ millions	%	%
Pharmaceuticals	**9,068**	**31.8**	**8,249**	**31.5**	**10**
Vaccines and Diagnostics	**719**	**29.7**	**309**	**18.1**	**133**
Sandoz	**1,395**	**18.6**	**1,421**	**18.8**	**(2)**
Consumer Health	**1,118**	**19.2**	**1,125**	**19.4**	**(1)**
Corporate income & expense, net	(863)		(785)		10
Core operating income	**11,437**	**25.8**	**10,319**	**25.0**	**11**

Pharmaceuticals Division

Operating income rose 11% to $8.4 billion and the operating income margin was 29.4% of net sales, up from 28.8% in 2008. Core operating income ($9.1 billion, +10%, including adverse currency impact of six percentage points) also grew well ahead of net sales on the strong volume expansion in local currencies and productivity gains of nearly $1 billion, which resulted in the core operating income margin rising 0.3 percentage points to 31.8% of net sales.

The improved core operating income performance also absorbed a dilution of 1.1 percentage points in lower Other Revenues, mainly due to the end of Betaseron® royalties in late 2008. The operational expansion, along with reinvestments of some productivity gains, enabled major investments in new product launches and rapid expansion of top emerging markets such as China. Marketing & Sales expenses fell 1.6 percentage points to 29.3% of net sales in 2009 as productivity improvements more than offset costs for the ongoing worldwide launches of many new products including *Galvus, Exelon* Patch, *Valturna* and the *Tekturna/Rasilez* portfolio. R&D investments supported the start of 14 new Phase III trials in 2009, with R&D representing 20.0% of net sales in 2009 compared to 20.3% in 2008. Among items excluded from core operating income in 2009 that totaled $676 million, which was largely unchanged from $670 million in 2008, were a $318 million increase in legal provisions as part of pending settlements to resolve US federal investigations into the past marketing practices of *Trileptal*. Also in 2009 the ongoing strong sales performance of *Famvir* outside the US enabled the partial reversal of an impairment charge taken in 2007 providing a one-time gain of $100 million.

Vaccines and Diagnostics Division

Operating income of $372 million rose sharply from $78 million in 2008, with the operating income margin rising to 15.3% from 4.4% in 2008. Core operating income of $719 million in 2009 included substantial contributions from Influenza A (H1N1) pandemic vaccine sales enabled by significant development and manufacturing investments earlier in the year. Clinical trials for the pandemic vaccines and investments in the late-stage meningitis development vaccines led to R&D costs still rising as a percentage of net sales in 2009 compared to 2008. Results in 2008 included sales from major deliveries of Influenza A (H5N1) pandemic vaccines.

Sandoz Division

Operating income declined 1% to $1.1 billion, which included an adverse currency impact of 11 percentage points, with the operating income margin unchanged at 14.3% of net sales. Core operating income fell 2% to $1.4 billion. Improved business conditions in key markets and productivity gains,

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particularly in Marketing & Sales and R&D, reduced the total cost base while supporting investments in emerging markets and new products. However, the underlying improvements were more than offset by significant price erosion and the adverse currency impact, which resulted in the core operating income margin falling 0.2 percentage points to 18.6% of net sales.

Consumer Health Division

Operating income fell 3% to $1.0 billion, which included an adverse currency impact of 10 percentage points, and the operating income margin in 2009 fell 0.5 percentage points to 17.5% of net sales. Core operating income benefited from the strong underlying business expansion and productivity gains. However, it declined 1% to $1.1 billion due to the adverse currency impact and major investments to launch the OTC product *Prevacid 24HR* in the US, which resulted in the core operating income margin declining slightly to 19.2% of net sales in 2009 from 19.4% in 2008.

Corporate Income & Expense, Net

Corporate income and expense net, as well as related core measures increased mainly due to higher pension expenses.

Other Revenues and Operating Expenses

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $
	$ millions	$ millions	%
Net sales	**44,267**	**41,459**	**7**
Other revenues	836	1,125	(26)
Cost of goods sold	(12,179)	(11,439)	6
Marketing & sales	(12,050)	(11,852)	2
Research & development	(7,469)	(7,217)	3
General & administration	(2,281)	(2,245)	2
Other income	782	826	(5)
Other expense	(1,924)	(1,693)	14
Operating income	**9,982**	**8,964**	**11**

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Core Revenues and Operating Expenses

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $
	$ millions	$ millions	%
Net sales	**44,267**	**41,305**	**7**
Other revenues	808	1,076	(25)
Cost of Goods Sold	(11,292)	(10,441)	8
Marketing & Sales	(12,050)	(11,852)	2
Research & Development	(7,287)	(6,776)	8
General & Administration	(2,281)	(2,245)	2
Other income	717	640	12
Other expense	(1,445)	(1,388)	4
Core operating income	**11,437**	**10,319**	**11**

Other Revenues

Other revenues declined 26% to $0.8 billion mainly due to the end of a royalty income agreement in Pharmaceuticals at the end of 2008 involving Bayer Schering and the launch of *Extavia.* Other revenues also included profit contributions from sales of the asthma medicine *Xolair* in the US, where it is co-marketed and co-developed in collaboration with Genentech.

Cost of Goods Sold

Cost of Goods Sold rose 6% to $12.2 billion in 2009, but declined by 0.1 percentage points to 27.5% of net sales as productivity savings in Pharmaceuticals and lower sourcing costs in some divisions were partially offset by changes in the Group's product mix and geographic sales. Cost of Goods Sold in core results increased 8% to $11.3 billion.

Marketing & Sales

Marketing & Sales rose 2% to $12.1 billion, as productivity improvements in Pharmaceuticals and field-force efficiency gains in Sandoz more than compensated for actions taken in 2009 to launch new products across the Group. As a result, Marketing & Sales fell to 27.2% of net sales from 28.6% in 2008. For core results, Marketing & Sales also rose 2% to $12.1 billion, with the same operating income margin for 2009.

Research & Development

Research & Development grew 3% to $7.5 billion to advance a broad range of innovative pipeline projects throughout the Group. The Group's R&D investments represented 16.9% of net sales in 2009 compared to 17.4% in 2008. Nearly 80% of R&D investments were in Pharmaceuticals, amounting to $5.8 billion, or 20.5% of the division's sales. Core R&D increased 8% to $7.3 billion.

General & Administration

General & Administration expenses were up only 2% to $2.3 billion in 2009 from the benefits of productivity gains and good cost management across all divisions, with core results showing the same trends.

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Other Income and other Expense

Other income, which largely consists of gains from the disposal of intangible assets and property, plant & equipment, declined 5% to $782 million in 2009. For core results, other income rose 12% in 2009, due mainly to the elimination of various exceptional gains exceeding a $25 million threshold in 2008.

Other expense, which largely consists of litigation settlement costs, impairment of financial assets and pension expenses, grew 14% to $1.9 billion in 2009. Among factors for the increase were higher pension expenses and litigation charges, which included increased legal provisions for *Trileptal* related to a plea agreement reached with the US federal government regarding the criminal allegations and the onging negotiations for a settlement of the civil claims and for *Tobi* related to an agreement to settle in principle all civil claims and state Medicaid claims reached with US federal and state government offices in 2009. For core results, which eliminate exceptional charges exceeding a $25 million threshold, other expense was up 4% on a comparable basis to $1.4 billion in 2009.

Non-Divisional Income & Expense

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $
	$ millions	$ millions	%
Operating income	**9,982**	**8,964**	**11**
Income from associated companies	293	441	(34)
Financial income	198	384	(48)
Interest expense	(551)	(290)	90
Income before taxes	**9,922**	**9,499**	**4**
Taxes	(1,468)	(1,336)	10
Net income from continuing operations	**8,454**	**8,163**	**4**
Net income from discontinued operations		70	
Group net income	**8,454**	**8,233**	**3**
Attributable to:			
Shareholders of Novartis AG	*8,400*	*8,195*	*3*
Non-controlling interests	*54*	*38*	*42*
Basic earnings per share ($)	**3.70**	**3.59**	**3**

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Core Non-Divisional Income & Expense

	Year ended December 31, 2009	Year ended December 31, 2008	Change in $
	$ millions	$ millions	%
Core operating income	**11,437**	**10,319**	**11**
Income from associated companies	1,051	839	25
Financial income	198	384	(48)
Interest expense	(551)	(290)	90
Core income before taxes	**12,135**	**11,252**	**8**
Taxes	(1,868)	(1,751)	7
Core net income	**10,267**	**9,501**	**8**
Attributable to:			
Shareholders of Novartis AG	*10,213*	*9,463*	*8*
Non-controlling interests	*54*	*38*	*42*
Basic earnings per share ($)	**4.50**	**4.18**	**8**

Income from Associated Companies

Associated companies are accounted for using the equity method when Novartis holds between 20% and 50% of the voting shares of these companies, or where Novartis has otherwise significant influence over them. Income from associated companies is mainly derived from the Group's investments in Roche Holding AG and Alcon Inc.

In 2009, exceptional charges totaling $189 million for actions taken by Roche and Alcon were the factors for the 34% reduction in income from associated companies to $293 million in 2009.

The following is a summary of the individual components included in the income from associated companies:

	2009	2008
	$ millions	$ millions
Share of estimated Roche reported net income	593	560
Catch-up for actual Roche previous year net income	(40)	11
Restructuring impact	(97)	
Amortization of intangible assets	(135)	(132)
Net income effect from Roche	**321**	**439**
Share of Alcon net income	493	255
Catch-up for actual Alcon previous year net income	5	
Intangible asset impairment charge	(92)	
Amortization of intangible assets	(434)	(266)
Net income effect from Alcon	**(28)**	**(11)**
Net income from other associated companies		**13**
Income from associated companies	**293**	**441**

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The Group's 33.3% interest in Roche's voting shares, which represents a 6.3% interest in Roche's total equity, generated income of $321 million in 2009, down from $439 million in 2008. The 2009 contribution reflects an estimated $593 million share of Roche's net income in 2009 and a negative prior-year adjustment of $40 million. This contribution, however, was reduced by $135 million for the amortization of intangible assets arising from the allocation of the purchase price paid by Novartis for this investment to Roche's intangible assets and an exceptional charge of $97 million taken in 2009 as part of Roche's restructuring charge for the Genentech acquisition.

Results from the 25% stake in Alcon, which were included for the first time in 2008, provided $28 million of loss compared to a loss of $11 million in 2008. Anticipated net income of approximately $493 million from Alcon for 2009 and a positive prior-year adjustment of $5 million were reduced by $434 million for the amortization of intangible assets and other charges as well as an impairment charge of $92 million taken after Alcon stopped the Retaane® pharmaceutical development project.

Adjusting for the exceptional items in both years, core income from associated companies increased 25% to $1.1 billion.

A survey of analyst estimates is used to predict the Group's share of net income in Roche and Alcon. Any differences between these estimates and actual results will be adjusted in the 2010 financial statements.

Idenix, which became an associated company in September after its deconsolidation, contributed a loss of $9 million and other investments contributed $9 million.

Financial Income and Interest Expense

Financial income declined 48% to $198 million in 2009, mainly due to lower financial yields and currency losses in 2009. Interest expense rose 90% to $551 million in 2009 following the issuance of US dollar and euro bonds in the first half of the year.

Taxes

Tax expenses in 2009 were $1.5 billion, a 10% increase from 2008. The tax rate (taxes as a percentage of pre-tax income) rose to 14.8% in 2009 from an unusually low rate of 14.1% in 2008, due mainly to a change in profit mix within the Group's businesses. The effective tax rate is different than the expected tax rate due to various adjustments made to the IFRS results to arrive at taxable income. For further information on the main elements contributing to the difference, see "Item 18. Financial Statements note 6". The core tax rate at 15.4% was slightly lower than the 2008 rate of 15.6%.

Net Income

Net income rose 4% to $8.5 billion in 2009. Core net income was up 8% to $10.3 billion.

Basic Earnings per Share

Basic earnings per share were $3.70, up 3% from $3.59 in 2008, but less than the net income increase due to higher income attributable to non-controlling interests. Core earnings per share grew 8% to $4.50 in 2009 from $4.18 in 2008.

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5.B Liquidity and Capital Resources

Cash Flow

The following table sets forth certain information about the Group's cash flow and net debt/liquidity.

	Year ended December 31,		
	2010	**2009**	**2008**
	$ millions	**$ millions**	**$ millions**
Cash flows from operating activities	14,067	12,191	9,769
Cash flows used in investing activities	(15,756)	(14,219)	(10,367)
Cash flows from/used in financing activities	4,116	2,809	(2,573)
Cash flows from discontinued operations			(105)
Currency translation effect on cash and cash equivalents	(2)	75	(46)
Net change in cash and cash equivalents	**2,425**	**856**	**(3,322)**
Change in marketable securities	(11,740)	10,476	(3,762)
Change in current and non-current financial debts	(8,999)	(6,624)	(1,570)
Change in net (debt)/liquidity	**(18,314)**	**4,708**	**(8,654)**
Net liquidity/(debt) at January 1	3,461	(1,247)	7,407
Net (debt)/liquidity at December 31	**(14,853)**	**3,461**	**(1,247)**

The analysis of our cash flow is divided as follows:

1. Cash Flows From Operating Activities
2. Cash Flows Used in Investing Activities
3. Cash Flows From/Used in Financing Activities
4. Net Liquidity
5. Free Cash Flow

1. Cash Flows From Operating Activities

Cash flow from operating activities was $14.1 billion in 2010, a 15.4% increase from $12.2 billion in 2009. The additional cash flow of $1.9 billion generated by the strong business expansion and lower working capital requirements was partially offset by higher taxes and payments in connection with the resolution of certain legal matters

In 2009, our primary source of liquidity was cash generated from our operations. The cash flow from operating activities rose 25% to $12.2 billion and reflected $1.3 billion lower working capital requirements compared to 2008.

In 2008, cash flow from operating activities increased by 6% to $9.8 billion ($559 million), due to additional cash flow generated by the solid business expansion that was partially offset by higher tax and Forward restructuring payments.

2. Cash Flows Used in Investing Activities

The net cash outflow used for investing activities in 2010 amounted to $15.8 billion, $1.5 billion above the prior-year amount. The cash used for acquisitions was $26.7 billion. This amount is comprised of $26.1 billion (net of $2.2 billion cash acquired) for the purchase of the additional 52% investment in Alcon

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and of $0.5 billion for the acquisition of Corthera and Oriel as well as for deferred payments related to the EBEWE acquisition. The net cash used for investments in property, plant & equipment, intangible and other assets amounted to $1.7 billion. These outflows were partially offset by the net proceeds of marketable securities of $12.6 billon.

In 2009, cash outflows from investing activities rose 37% to $14.2 billion and included $10.5 billion in marketable securities investments net financed with proceeds from bond offerings as well as $0.9 billion for the acquisition of the EBEWE Pharma generics business in Sandoz and $1.9 billion for capital expenditures.

In 2008, cash outflow due to investing activities was $10.4 billion, Acquisitions involving Alcon, Speedel, Protez and the Nektar pulmonary business amounted to $11.5 billion and investments in property, plant & equipment to $2.1 billion, while net proceeds from the sale of marketable securities amounted to $3.3 billion.

3. Cash Flows From/Used in Financing Activities

Net cash provided by financing activities increased by $1.3 billion to $4.1 billion in 2010 compared to $2.8 billion in 2009. The $8.3 billion proceeds from the bonds and commercial paper programs as well as other net inflows totaling $0.3 billion were partially offset by the payment of the 2009 dividend of $4.5 billion in 2010.

In 2009, cash inflows from financing activities were a net $2.8 billion, as proceeds from bond issues totaling $7.1 billion were partially reduced by the dividend payment for 2008 of $3.9 billion and other items totaling $0.4 billion.

In 2008, cash outflow used for financing activities was $2.6 billion, as the dividend payment made in 2008 of $3.3 billion and $0.5 billion related to treasury share transactions were partially offset by cash inflows of $1.3 billion related to net additions to financial debt.

4. Net Liquidity

Overall liquidity at the end of 2010 amounted to $8.1 billion compared to $17.4 billion at the end of 2009. Taking into account additional debt raised in 2010, the Group had net debt of $14.9 billion at the end of 2010 compared to net liquidity of $3.5 billion at the end of 2009.

At December 31, 2009 overall liquidity amounted to $17.4 billion compared to $6.1 billion at the end of 2008. Taking into account additional debt raised in 2009 through bond issues, the Group had net debt of $1.2 billion at the end of 2008 compared to net liquidity of $3.5 billion at the end of 2009.

At December 31, 2008 overall liquidity fell to $6.1 billion from $13.2 billion at the end of 2007. Taking into account additional debt raised in 2008, net liquidity at the end of 2007 of $7.4 billion swung to net debt of $1.2 billion at the end of 2008.

Net liquidity constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under International Financial Reporting Standards (IFRS). Net liquidity is presented as additional information as it is a useful indicator of the Group's ability to meet financial commitments and to invest in new strategic opportunities, including strengthening its balance sheet.

We use marketable securities and derivative financial instruments to manage the volatility of our exposures to market risk in interest rates and liquid investments. Our objective is to reduce, where appropriate, fluctuations in earnings and cash flows. We manage these risks by selling existing assets or entering into transactions and future transactions (in the case of anticipatory hedges) which we expect we will have in the future, based on past experience. We therefore expect that any loss in value for those securities or derivative financial instruments generally would be offset by increases in the value of those hedged transactions.

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We use the US dollar as our reporting currency and we are therefore exposed to foreign exchange movements, primarily in European, Japanese and other Asian and Latin American currencies. Consequently, we enter into various contracts which change in value as foreign exchange rates change, to preserve the value of assets, commitments and anticipated transactions. We also use forward contracts and foreign currency option contracts to hedge certain anticipated net revenues in foreign currencies, see "Item 11, Quantitative and Qualitative Disclosures About Non-Product-Related Market Risk," for additional information.

5. Free Cash Flow

Novartis defines free cash flow as cash flow from operating activities less purchase or sale of property, plant & equipment, intangible, non-current and financial assets and dividends paid. Cash effects realized in connection with the acquisition or divestment of subsidiaries, associated companies and non-controlling interests are excluded from free cash flow. The following is a summary of the Group's free cash flow:

	Year ended December 31,		
	2010	**2009**	**2008**
	$ millions	**$ millions**	**$ millions**
Cash flows from operating activities	**14,067**	**12,191**	**9,769**
Purchase of property, plant & equipment	(1,678)	(1,887)	(2,106)
Purchase of intangible assets	(554)	(846)	(210)
Purchase of financial assets	(124)	(215)	(131)
Purchase of non-current non-financial assets	(15)	(23)	(5)
Proceeds from sales of property, plant & equipment	36	48	58
Proceeds from sales of intangible assets	545	51	169
Proceeds from sales of financial assets	66	124	99
Proceeds from sales of non-current non-financial assets	3	3	3
Free cash flow before dividend	**12,346**	**9,446**	**7,646**
Dividends paid to shareholders of Novartis AG	(4,486)	(3,941)	(3,345)
Free cash flow from continuing operations	**7,860**	**5,505**	**4,301**
Free cash flow from discontinued operations			(237)
Group free cash flow	**7,860**	**5,505**	**4,064**

The free cash flow for 2010 was $7.9 billion which represents an increase of 42.8% over 2009. The strong business expansion, lower working capital requirements, higher proceeds from the disposal of intangible assets as well as lower capital spending contributed to the growth of the free cash flow.

Net investments in property, plant & equipment in 2010 were $1.6 billion, or 3.2% of net sales, down from 4.2% of net sales in 2009. Free cash flow before dividends rose 31% to $12.3 billion in 2010 and was mainly attributable to the Pharmaceuticals Division which contributed $10.7 billion to the Group total.

Our 2009 Group free cash flow from continuing operations rose 28% to $5.5 billion. This rise relates mainly to the solid business expansion, reduced tax payments, lower working capital requirements and a reduction of investments in property, plant & equipment. This was partially offset by increased payments for intangible assets, lower proceeds from assets disposals and higher net financial payments. Capital expenditure for continuing operations on property, plant & equipment in 2009 were $1.9 billion, or 4.3% of net sales, down from 5.1% of net sales in 2008. Free cash flow before dividends rose 24% to $9.4 billion in 2009, reflecting the strong focus on business performance and control of fixed and working capital.

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Our 2008 Group free cash flow from continuing operations rose 14% to $4.3 billion on our solid business expansion as well as lower levels of investments in property, plant & equipment and also intangible assets. Capital expenditure for continuing operations on property, plant & equipment for 2008 amounted to $2.1 billion, or 5.1% of net sales, down from 6.7% of net sales in 2007.

Free cash flow is presented as additional information because Novartis considers it is a useful indicator of the Group's ability to operate without relying on additional borrowing or the use of existing cash. Free cash flow is a measure of the net cash generated that is available for debt repayment and investment in strategic opportunities.

The Group uses free cash flow as a performance measure when making internal comparisons of the results of divisions. Free cash flow of the divisions uses the same definition as for the Group. However no dividends, tax or financial receipts or payments are included in the operating divisional calculation.

Free cash flow constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under International Financial Reporting Standards (IFRS). Free cash flow is not intended to be a substitute measure for cash flow from operating activities (as determined under IFRS).

Capital Resources

Funding of the Alcon transaction

On August 25, 2010, Novartis completed the acquisition of a further 52% interest in Alcon, Inc. following on from the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately $28.3 billion or $180 per share. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for $10.4 billion or $143 per share in July 2008.

The overall purchase price of $38.7 billion includes certain adjustments for Alcon dividends and interest due. Sources of financing for the 77% ownership, including the initial 25% stake purchased in mid-2008, were $17.0 billion of available cash, and $13.5 billion from bonds raised in March 2010 as well as in 2008 and 2009. In addition, during 2010, we raised funds through our commercial paper program, which was used for general corporate purposes of the Novartis Group, as well as for intercompany financing purposes in connection with the acquisition of the 52% interest in Alcon.

On December 15, 2010, Novartis announced that it has entered into a definitive agreement to merge Alcon into Novartis for Novartis shares and a Contingent Value Amount (CVA). Under the terms of the agreement, the merger consideration will include up to 2.8 Novartis shares and a CVA to be settled in cash that will in aggregate equal $168 per share. If the value of 2.8 Novartis shares is more than $168 the number of Novartis shares will be reduced accordingly. The total merger consideration for the non-controlling interest will be $12.9 billion, comprising of up to 215 million Novartis shares and a potential CVA to be settled in cash.

Credit agencies maintained their ratings of Novartis debt during 2010. Moody's rates the Group as Aa2 for long-term maturities and P-1 for short-term maturities and Standard & Poor's has a rating of AA- and A-1+, for long-term and short-term maturities, respectively. Fitch has a long-term rating of AA and a short-term rating of F1+.

Share Repurchase Plans

On December 15, 2010 we announced the reactivation of the sixth share repurchase program, along with the agreement for the merger with Alcon, Inc. This program had been suspended since April 2008 when we announced an agreement to potentially acquire majority ownership in Alcon, Inc, from Nestle S.A. No shares were cancelled in 2010 as none had been repurchased in the 12 months to December 2009. No shares were repurchased under the share repurchase program in 2010.

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Treasury shares

At December 31, 2010, our holding of treasury shares amounted to 348.2 million shares or 13% of the total number of issued shares. Approximately 181 million treasury shares are held in entities that limit their availability for use. At December 31, 2009, our holding of treasury shares amounted to 363.3 million shares or 14% of the total number of issued shares.

Bonds

On March 9, 2010, Novartis issued a three-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 1.9% three-year tranche totaling $2.0 billion, a 2.9% five-year tranche totaling $2.0 billion and a 4.4% 10-year tranche totaling $1.0 billion were issued by the Group's US entity, Novartis Capital Corp. All tranches are unconditionally guaranteed by Novartis AG.

On February 5, 2009, Novartis issued a two-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 4.125% five-year tranche totaling $2.0 billion was issued by the Group's US entity, Novartis Capital Corp., while a 5.125% 10-year tranche totaling $3.0 billion was issued by the Group's Bermuda unit, Novartis Securities Investment Ltd. Both tranches are unconditionally guaranteed by Novartis AG.

On June 2, 2009, Novartis issued a 4.25% bond, due in 2016 of EUR 1.5 billion (approximately $2.1 billion) under its EUR 15 billion Euro Medium Term Note Programme. The seven-year bond, issued by Novartis Finance S.A., Luxembourg, is guaranteed by Novartis AG.

On June 26, 2008, Novartis AG issued a 3.625% bond, due in 2015 of CHF 800 million. Also on June 26, 2008, our affiliate, Novartis Securities Investment Ltd. Bermuda, issued a 3.5% bond, guaranteed by Novartis AG, due in 2012, of CHF 700 million.

Direct Share Purchase Plans

Novartis has been offering US investors since 2001 an ADS Direct Share Purchase Plan that provides investors an easy and inexpensive way of directly purchasing Novartis shares and of reinvesting dividends. This plan holds Novartis ADSs that are listed on the New York Stock Exchange under the trading symbol NVS. At the end of 2010, the ADS Direct Plan had 962 participants.

Starting in September 2004, Novartis began offering a Direct Share Purchase Program to investors residing in Switzerland, Liechtenstein, France and the United Kingdom, which was the first of its kind in Europe. This plan offers an easy and inexpensive way for investors to directly purchase Novartis registered shares and for them to be held at no cost in a deposit account with SIX SAG AG. At the end of 2010, a total of 9,314 shareholders were enrolled in this program.

Liquidity/Short-term Funding 2010 and 2009

We continuously track our liquidity position and asset/liability profile. This involves modelling cash flow maturity profiles based on both historical experiences and contractual expectations to project our liquidity requirements. We seek to preserve prudent liquidity and funding capabilities.

We are not aware of significant demands to decrease our level of liquidity apart from the usual operating cash flows. We expect that part of our free cash flow will be used to reduce our financial debt. Thus we expect that our level of net debt should decrease absent unforeseen events.

We make use of various borrowing facilities provided by several financial institutions. We also successfully issued various bonds in 2009 and 2010. In addition, we raised funds through our commercial paper program. We have no commitments from repurchase or securities lending transactions.

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The principal reason for the increase in average current financial debt in 2010 compared to 2009 is the increase in commercial paper during 2010, which was used for general corporate purposes of the Novartis Group, as well as for intercompany financing purposes in connection with the acquisition of an additional 52% interest in Alcon, Inc. during 2010.

The current financial debt is set forth below:

	December 31, 2010	2010 Average interest rate[1]	2010 Average	2010 Average interest rate[1]	2010 Maximum[2]
	$ millions	%	$ millions	%	$ millions
Interest bearing accounts of associates	1,321	1.15	1,239	1.23	1,321
Other bank and financial debt	2,195	2.37	2,297	2.26	2,692
Commercial paper	4,969	0.20	3,603	0.28	8,719
Current portion of non-current financial debt	98	na	47	na	98
Fair value of derivative financial instruments	44	na	106	na	201
Total current financial debt	**8,627**		**7,292**		**12,631**

	December 31, 2009	2009 Average interest rate[1]	2009 Average	2009 Average interest rate[1]	2009 Maximum[2]
	$ millions	%	$ millions	%	$ millions
Interest bearing accounts of associates	1,175	1.23	1,121	1.29	1,176
Other bank and financial debt	2,142	2.73	2,159	2.70	2,446
Commercial paper	1,887	0.26	1,574	0.31	1,886
Current portion of non-current financial debt	29	na	17	na	29
Fair value of derivative financial instruments	80	na	190	na	329
Total current financial debt	**5,313**		**5,061**		**5,660**

(1) Interest is calculated based on the average balances for a quarter.

(2) Maximum amount at end of any quarter in each category.

na not applicable or available.

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Interest bearing accounts of associates relate to employee deposits in CHF from the compensation of associates employed by Swiss entities (actual interest rate: 1.25%). Other bank and financial debt refer to usual lending and overdraft facilities. The commercial paper are issued through our commercial paper program.

5.C Research & Development, Patents and Licenses

Our R&D spending totaled $9.1 billion, $7.5 billion and $7.2 billion ($8.1 billion, $7.3 billion and $6.8 billion excluding impairments and amortization charges) for the years 2010, 2009 and 2008, respectively. Each of our divisions has its own R&D and patents policies. Our divisions have numerous products in various stages of development. For further information on these policies and these products in development, see "Item 4. Information on the Company 4.B Business Overview."

As described in the "Risk Factors" section and elsewhere in this Form 20-F, our drug development efforts are subject to the risks and uncertainties inherent in any new drug development program. Due to the risks and uncertainties involved in progressing through pre-clinical development and clinical trials, and the time and cost involved in obtaining regulatory approvals, among other factors, we cannot reasonably estimate the timing, completion dates, and costs, or range of costs, of our drug development program, or of the development of any particular development compound, see "Item 3. Key Information 3.D Risk Factors." In addition, for a description of the research and development process for the development of new drugs and our other products, and the regulatory process for their approval, see "Item 4. Information on the Company 4.B Business Overview."

5.D Trend Information

On January 3, 2011, Novartis and Johnson & Johnson signed an agreement to settle all litigations related to the silicone hydrogel patents (JUMP patents). Under the agreement, Novartis will receive a settlement payment and each party will grant to the other party a fully paid up, irrevocable, worldwide non-exclusive license with no right to sub-license under the respective patent rights. Novartis will record the resulting income in the first quarter of 2011.

In addition, please see " 5.A Operating Results Factors Affecting Results of Operations" and "Item 4, Information on the Company 4.B Business Overview" for trend information.

5.E Off-Balance Sheet Arrangements

We have no unconsolidated special purpose financing or partnership entities or other off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources, that is material to investors, See also "Item 18. Financial Statements note 28" and matters described in "Item 5.F Aggregate Contractual Obligations".

5.F Aggregate Contractual Obligations

We have long-term research agreements with various institutions which require us to fund various research projects in the future. As of December 31, 2010, the aggregate total amount of payments, including potential milestones, which may be required under these agreements, was $3.5 billion. We expect to fund these long-term research agreements with internally generated resources.

As of December 31, 2010, our total financial debt was $23.0 billion, as compared with $14.0 billion as of December 31, 2009, and $7.4 billion as of December 31, 2008. The increase from 2009 to 2010 and from

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2008 to 2009 of $9.0 billion and $6.6 billion, respectively, was principally due to the issuance of new bonds and commercial papers.

We have $13.5 billion of bonds outstanding at December 31, 2010. We had $8.6 billion and $1.4 billion of bonds outstanding at December 31, 2009 and at December 31, 2008, respectively. For details on the maturity profile of debt, currency and interest rate structure, see "Item 18. Financial Statements note 19".

As of December 31, 2010, we had current debt (excluding the current portion of non-current debt) of $8.5 billion as compared with $5.3 billion as of December 31, 2009, and $5.2 billion as of December 31, 2008. This current debt consists mainly of $3.5 billion (2009: $3.3 billion; 2008: $3.5 billion) in other bank and financial debt, including interest bearing employee accounts; $5.0 billion (2009: $1.9 billion; 2008: $1.3 billion) of commercial paper, and $44 million (2009: $0.1 billion; 2008: $0.4 billion) of other current debt. For further details see "Item 18. Financial Statements note 21".

We are in compliance with all covenants or other requirements set forth in our financing agreements. We do not have any rating downgrade triggers that would accelerate maturity of our debt. For details of the maturity profile of debt, currency and interest rate structure, see "Item 18. Financial Statements note 19".

The following table summarizes our contractual obligations and other commercial commitments at December 31, 2010 and the effect such obligations and commitments are expected to have on our liquidity and cash flow in future periods:

		Payments due by period			
Contractual Obligations	**Total**	**Less than 1 year**	**2-3 years**	**4-5 years**	**After 5 years**
	$ millions	**$ millions**	**$ millions**	**$ millions**	**$ millions**
Non-current financial debt	14,458	98	2,808	5,591	5,961
Operating leases	3,162	363	450	262	2,087
Unfunded pension and other post-retirement obligations	1,200	66	142	157	835
Research & development					
Unconditional commitments	270	84	95	61	30
Potential milestone commitments	3,264	338	1,133	703	1,090
Purchase commitments					
Property, plant & equipment	597	460	82	37	18
Total contractual cash obligations	**22,951**	**1,409**	**4,710**	**6,811**	**10,021**

We expect to fund the R&D and purchase commitments with internally generated resources.

For other contingencies, see "Item 4. Information on the Company 4.D Property, Plants and Equipment Environmental Matters", "Item 8. Financial Information 8.A Consolidated Statements and Other Financial Information 8.A" and "Item 18. Financial Statements note 20".

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Item 6. Directors, Senior Management and Employees

Item 6.A Directors and Senior Management

Board of Directors

Daniel Vasella, M.D., Swiss, age 57

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

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

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

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

Ulrich Lehner, Ph.D., German, age 64

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

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

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

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

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Hans-Joerg Rudloff, German, age 70

Function at Novartis AG Hans-Joerg Rudloff has been a member of the Board of Directors since 1996. He qualifies as an independent Non-Executive Director. He is Vice Chairman and a member of the Audit and Compliance Committee, the Risk Committee, the Compensation Committee, and the Chairman's Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities In 2006, Mr. Rudloff joined the Board of Directors of Rosneft, a Russian state-controlled oil company, and became Chairman of the audit committee. He serves as the Chairman of the Board of Directors of Bluebay Asset Management Ltd., United Kingdom, and the Marcuard Group, Switzerland. He was also a member of the Boards of Directors of the Thyssen-Bornemisza Group and is now a consultant to the board. He joined New World Resources B.V., Netherlands, as a Board Member and a Member of the Audit and Remuneration Committees. In addition, Mr. Rudloff is a member of the Advisory Boards of Landeskreditbank Baden-Wuerttemberg and EnBW, both in Germany. In 2005, Mr. Rudloff became Chairman of the International Capital Markets Association (ICMA), Switzerland.

Professional background Mr. Rudloff studied economics at the University of Bern, Switzerland. After graduating in 1965, he joined Credit Suisse in Geneva. He moved to the US-based investment banking firm of Kidder Peabody Inc. in 1968. He later headed Swiss operations and was elected Chairman of Kidder Peabody International. In 1978 he became a member of the Board of Directors of Kidder Peabody Inc., United States. In 1980, he joined Credit Suisse First Boston, Switzerland, was elected Vice Chairman in 1983, and became Chairman and CEO in 1989. From 1986 to 1990, Mr. 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, Mr. Rudloff was Chairman of MCBBL in Luxembourg. In 1994, he was appointed to the Board of Directors of Sandoz AG in Switzerland. In 1998, Mr. Rudloff joined Barclays Capital, United Kingdom, where he is presently Chairman.

Key knowledge/experience Leadership and Banking experience chairman of investment bank; chairman of asset management company. *Industry and Global experience* director of global energy company.

William Brody, M.D., Ph.D., American, age 66

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

Other activities Dr. Brody is a member of the Board of Directors of the US-based IBM, and the Mutual Funds Boards of T. Rowe Price, and the China-based Novamed. He is also a member of numerous professional associations, and serves on the advisory boards of various government and nonprofit organizations.

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

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

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Srikant Datar, Ph.D., American, age 57

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

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

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

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

Ann Fudge, American, age 59

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

Other activities Ms. Fudge serves on the Board of Directors of General Electric and on the Board of Directors of Unilever, UK/Netherlands. She is a Trustee of the New York-based Rockefeller Foundation and of Atlanta-based Morehouse College, and is Chairman of the US Programs Advisory Panel of the Bill & Melinda Gates Foundation. She is also on the Board of the Council on Foreign Relations.

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

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

Alexandre F. Jetzer-Chung, Swiss, age 69

Function at Novartis AG Alexandre F. Jetzer-Chung has been a member of the Board of Directors since 1996.

Other activities Mr. Jetzer-Chung is a member of the Supervisory Board of Compagnie Financière Michelin and of the Board of the Lucerne Festival Foundation, both in Switzerland. He is a member of the International Advisory Panel on Biotechnology Strategy of the Prime Minister of Malaysia, a member of the Investment Advisory Council of the Prime Minister of Turkey, and an economic advisor to the

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Governor of Guangdong Province, China. He is also a member of the Development Committee of the Neuroscience Center of the University of Zurich, Switzerland.

Professional background Mr. Jetzer-Chung graduated with master's degrees in law and economics from the University of Neuchâtel, Switzerland, and is a licensed attorney. From 1967 to 1980, he served as General Secretary of the Swiss Federation of Commerce and Industry (Vorort). Mr. Jetzer-Chung joined Sandoz in 1980. In 1981, he was appointed member of the Sandoz Group Executive Committee in the capacity of Chief Financial Officer and, from 1990 on, as Head of Management Resources and International Coordination. From 1995 to 1996, he was Chairman and Chief Executive Officer of Sandoz Pharmaceuticals Corporation, and at the same time served as President and CEO of Sandoz Corporation in the United States. After the merger that created Novartis in 1996 until 1999, he was Head of International Coordination, Legal and Taxes, and a member of the Executive Committee of Novartis.

Permanent Novartis management or consultancy engagements Mr. Jetzer-Chung has a consultancy agreement with Novartis International AG.

Key knowledge/experience *Leadership and Finance experience* former chief financial officer of global healthcare company*Global experience* advisor to governments in emerging markets.

Pierre Landolt, Swiss, age 63

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

Other activities Mr. Landolt is currently Chairman of the Sandoz Family Foundation and a Director of Syngenta AG, both in Switzerland. He is a Partner with unlimited liabilities of the Swiss private bank Landolt & Cie. Mr. Landolt serves, in Brazil, as President of the Instituto Fazenda Tamanduá, the Instituto Estrela de Fomento ao Microcrédito, AxialPar Ltda, and Moco Agropecuaria Ltda. In Switzerland, Mr. Landolt is Chairman of Emasan AG and Vaucher Manufacture Fleurier SA, Vice Chairman of Parmigiani Fleurier SA, and is on the Board of the Syngenta Foundation for Sustainable Agriculture, Switzerland. He is a Director of EcoCarbone SA, France, and Swiss Amazentis SA. He is also Vice Chairman of the Montreux Jazz Festival Foundation.

Professional background Mr. Landolt graduated with a bachelor's degree in law from the University of Paris-Assas. From 1974 to 1976, he worked for Sandoz Brazil SA. In 1977, he acquired an agricultural estate in the semi-arid Northeast Region of Brazil and, over several years, converted it into a model farm in organic and biodynamic production. Since 1997, Mr. Landolt has been Associate and Chairman of AxialPar Ltda, Brazil, an investment company focused on sustainable development, with investments in fish farming, soy for human consumption and organic vegetables. In 2000, he co-founded EcoCarbone SA, France, a company active in the design and development of carbon-sequestration processes in Asia, Africa, South America and Europe. In 2007, he co-founded Amazentis SA, Switzerland, a startup company active in the convergence space of medication and nutrition. In addition to his private activities, Mr. Landolt has been President of the Sandoz Family Foundation since 1994, and oversees the development of the foundation in several investment fields, including hotel, watch making and telecommunications.

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

Andreas von Planta, Ph.D., Swiss, age 55

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

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and a member of the Audit and Compliance Committee, as well as the Corporate Governance and Nomination Committee.

Other activities Mr. von Planta is Chairman of the Schweizerische National-Versicherungs-Gesellschaft AG and Vice Chairman of Holcim Ltd., both in Switzerland. He is also a member of the Boards of various Swiss subsidiaries of foreign companies and other non-listed Swiss companies. He is a member of the Board of Editors of the Swiss Review of Business Law and is a former Chairman of the Geneva Association of Business Law. Mr. von Planta is Chairman of the Regulatory Board of the SIX Swiss Exchange AG.

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

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

Dr. Ing. Wendelin Wiedeking, German, age 58

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

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

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

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

Marjorie Mun Tak Yang, Chinese, age 58

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

Other activities Ms. Yang is Chairman of the Esquel Group, Hong Kong, China. She is a Non-official Member of the Executive Council of the Hong Kong Special Administrative Region. In China, she is a member of the National Committee of the Chinese People's Political Consultative Conference. She currently serves on the boards of Swire Pacific Limited, and The Hong Kong and Shanghai Banking Corporation Limited in Hong Kong. Ms. Yang has been a member of the MIT Corporation since 2001. In January 2010 she was appointed as Chairman of the Council of the Hong Kong Polytechnic University. She also serves on the advisory boards of Harvard Business School, and Tsinghua School of Economics and Management.

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

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

Rolf M. Zinkernagel, M.D., Swiss, age 66

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

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

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

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

Executive Officers

Joseph Jimenez, American, age 51

Joseph Jimenez is Chief Executive Officer (CEO) of Novartis, responsible for leading the company's diversified healthcare portfolio of innovative pharmaceuticals, generics, vaccines and diagnostics and consumer health products since February 1, 2010. Previously, Mr. Jimenez served as Division Head, Novartis Pharmaceuticals. Mr. Jimenez led the transformation of the pharmaceutical portfolio to balance both mass market and specialty products and significantly increased the percent of sales from newly launched products. Mr. Jimenez also worked to realign the division's commercial approach to focus on the individual needs of customers and incorporated more technological tools to better connect with patients and customers. Mr. Jimenez joined Novartis in April 2007 as Division Head, Novartis Consumer Health. Previously, he served as President and CEO of the North America business for the H.J. Heinz Company and as President and CEO of Heinz in Europe from 2002 to 2006. Prior to joining Novartis, he was a NonExecutive Director of Astra-Zeneca plc, United Kingdom, from 2002 to 2007. He was also an advisor for the private equity organization Blackstone Group in the United States. Mr. Jimenez is a member of the Board of Directors of Colgate-Palmolive. He graduated with a bachelor's degree from Stanford University in 1982 and with an MBA from the University of California, Berkeley, in 1984.

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Juergen Brokatzky-Geiger, Ph.D., German, age 58

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

David Epstein, American, age 49

David Epstein is Division Head, Novartis Pharmaceuticals, since February 1, 2010. He is a member of the Executive Committee of Novartis. Prior to his current appointment, Mr. Epstein served as Head of Novartis Oncology for nearly 10 years. In addition, Mr. Epstein led the Molecular Diagnostics Unit since its creation in 2008. Before joining Novartis, Mr. Epstein was an associate in the Strategy Practice of the consulting firm, Booz Allen & Hamilton. Mr. Epstein joined Sandoz, a predecessor company of Novartis, in 1989, and held various leadership positions of increasing responsibility for the company, including Chief Operating Officer of Novartis Pharmaceuticals Corporation in the United States and Head of Novartis Specialty Medicines. Mr. Epstein graduated with a bachelor's degree in pharmacy from Rutgers University College of Pharmacy in 1984, and with an MBA in finance and marketing from New York's Columbia University Graduate School of Business in 1987.

Mark C. Fishman, M.D., American, age 59

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

Jeff George, American, age 37

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

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George Gunn, MRCVS, British, age 60

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

Andrin Oswald, M.D., Swiss, age 39

Andrin Oswald, M.D., is Division Head, Novartis Vaccines and Diagnostics, since 2008. He is a member of the Executive Committee of Novartis. Before joining Novartis, Dr. Oswald was a delegate of the International Committee of the Red Cross to Nepal from 2002 to 2003 and worked with McKinsey & Company, Switzerland. In 2005, Dr. Oswald joined Novartis and advanced from Assistant to the Chairman and CEO, to Head of the Country Pharma Organization (CPO) and Country President for Novartis in South Korea, to CEO of Speedel and Global Head of Development Franchises at Novartis Pharma in 2008. Dr. Oswald graduated with an M.D. from the University of Geneva, Switzerland, in 1999.

Jonathan Symonds, British, age 51

Jonathan Symonds is Chief Financial Officer (CFO) of Novartis AG since February 1, 2010. He is a member of the Executive Committee of Novartis. Before joining Novartis in 2009, Mr. Symonds was Partner and Managing Director of Goldman Sachs in the United Kingdom. He also has eight years of experience as CFO of AstraZeneca and previously held positions as Group Finance Director at Zeneca and partner at KPMG. From 2004 to 2007, Mr. Symonds was a director of Diageo Plc. and chairman of the Audit Committee. Other previous roles include director and Audit Committee chairman of Qinetiq Plc., chairman of the 100 Group of Finance Directors, joint chairman of the Business Tax Forum, board member of the Accounting Standards Board and founder of the Oxford University Centre for Business Taxation Research, all in the United Kingdom. Mr. Symonds graduated with a first class degree in business finance from the University of Hertfordshire, United Kingdom, in 1980 and became a Fellow of Chartered Accountants in 1982. He is a Commander of the British Empire (CBE).

Thomas Werlen, Ph.D., Swiss, age 45

Thomas Werlen is the Group General Counsel of Novartis since 2006. He is a member of the Executive Committee of Novartis. He is Secretary to the Corporate Governance and Nomination Committee of the Board of Directors of Novartis. In 1995, Mr. Werlen started his professional career with Cravath, Swaine & Moore in New York. In 2000, he moved to the Cravath, Swaine & Moore London office and, after a short stint with David Polk & Wardwell, he joined Allen & Overy as a Partner in March 2001. Based in the London office, he focused on corporate and capital markets law. His clients included multinational corporations and investment banks. Mr. Werlen holds lic.iur. and Ph.D. (Dr.) degrees in law from the University of Zurich and a master's degree in law from Harvard Law School. He is a member of the New York and the Swiss bar. He is also a member of the Regulatory Board of the SIX Swiss Exchange AG and member of the Advisory Board of the European Journal of Risk Regulation. Mr. Werlen has written several books and articles on business and financial law and teaches corporate and capital markets law at the University of St. Gallen.

None of the above directors or senior management has any family relationship with any other director or member of our senior management. None of the above directors or senior management were appointed pursuant to an arrangement or understanding between such officer or director and any third party.

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Item 6.B Compensation

2010 COMPENSATION REPORT

Novartis had discussions with numerous shareholders on questions of compensation in the past two years. In the current business environment it is important for companies to have a compensation system which not only drives sustainable performance and attracts and retains talented associates, but is also understood and supported by shareholders. In these discussions, interested shareholders who are focused on creation of sustainable value supported this view.

At the 2010 Annual General Meeting, Novartis shareholders approved the proposal by the Board of Directors to introduce a consultative vote on the compensation system in the Articles of Incorporation (a so-called "say on pay" vote). The upcoming Annual General Meeting, to be held in February 2011, will provide shareholders an opportunity to express their views on our compensation system through such a consultative vote. Subsequently, non-binding votes will be held before every significant change in the compensation system, but at a minimum at every third Annual General Meeting. The consultative vote is non-binding and advisory in nature; therefore, the ultimate decision on compensation remains within the authority of the Board of Directors.

The Novartis compensation system is based on the principle of meritocracy. Compensation is designed to attract, develop and retain talented associates, encourage and reward superior performance and align the interests of associates with those of our shareholders and stakeholders by creating economic value in a sustainable way.

The Compensation Committee serves as the supervisory and governing body for compensation policies and plans within Novartis. It reviews and proposes compensation plans and policies for approval by the Board of Directors. The Compensation Committee also reviews and approves employment contracts and individual compensation for selected key executives, including members of the Executive Committee. The five current members of the Compensation Committee all meet the independence criteria set forth in our Board Regulations.

All compensation plans and levels are reviewed regularly based on publicly available data as well as on analyses by independent compensation consultancy companies and external compensation advisors. Trends and developments in the field of compensation and corporate governance are carefully analyzed, reviewed and discussed on an ongoing basis with outside experts and consultants. The Compensation Committee considers methods to further strengthen the interrelation between the compensation plans and the Group's performance. It also reviews the compensation system to ensure that it does not encourage inappropriate or excessive risk taking and instead encourages behaviors that support sustainable value creation.

During 2010, we made the following changes to our compensation system to further ensure that no inappropriate or excessive risk taking is rewarded:

For all Executive Committee members, effective for the performance as of 2010 onwards, we:

- Increased the incentive percentage of the Long-Term Performance Plan (with a performance hurdle at vesting); and
- Decreased the incentive percentages under the Equity Plan "Select" (with a performance hurdle at grant).

Furthermore, we

- Lengthened the vesting period under the Equity Plan "Select" from two to three years in Switzerland effective for the grants made based on 2011 performance; and

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Implemented "clawback" provisions in individual employment contracts of all Executive Committee members as well as in incentive plans and award letters to associates allowing Novartis to hold back or seek to recover incentive compensation where the payout has been proven to conflict with internal management standards, accounting procedures or a violation of law.

In summary, our compensation system:

Includes a rigorous People Performance Management process reflecting meritocracy;

Applies a balanced scorecard approach to performance-based incentives by considering financial as well as non-financial objectives, including people management. In general, performance multipliers may not exceed 2 on a combined basis;

Sets overlapping performance periods and vesting schedules for long-term incentives, reducing the motivation to maximize performance in any one period;

Makes compliance and ethical conduct an integral factor when considering the performance of an executive;

Balances the mix of compensation of short-term annual incentive awards and long-term share-based compensation; and

Includes, as mentioned above, "clawback" provisions.

The Members of the Compensation Committee

Marjorie M.T. Yang (chair)
William Brody
Srikant Datar
Ulrich Lehner
Hans-Joerg Rudloff

See "Item 18. Financial Statements note 27" for information on Executive Officer and Director compensation as calculated under IFRS.

INTRODUCTION

Since Novartis was created from two traditional Swiss conglomerates in 1996, management has forged a distinctive culture, and inspired old and new associates alike with the shared aspiration of being one of the world's most admired and respected healthcare companies.

Because the skills and experience of associates needed to realize this vision are highly sought after, Novartis broke ranks with Swiss peers by raising compensation to internationally competitive levels. From the outset of operations, pay for performance has been a byword at Novartis.

Our compensation system aims to foster personal accountability based on clear targets, as well as underline the importance of competence and integrity as drivers of sustainable business success. Compensation includes a significant variable element in addition to a fixed base compensation and benefits. The size of the variable element is based on Group or divisional results, and on individual performance against a written set of objectives, together with appraisal of values and behaviors. To encourage superior performance, variable compensation at Novartis can reach up to 200% of the target amount of an associate's incentive.

To align associates with the interests of shareholders, a large proportion of variable compensation for executives is paid in the form of equity Novartis shares or share options. A share option plan originally encompassed 400 key executives and has been steadily expanded. Following 2010 performance, almost

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11,000 associates participated in the Equity Plan "Select", representing a participation rate of approximately 11% of full-time associates worldwide.

Pay for performance has spurred a culture of meritocracy at Novartis, with checks and balances to ensure integrity and fairness. The "four eyes" rule, for example, requires that associates' annual objectives and performance evaluations be reviewed separately by two levels of supervisors. Our People Performance Management process includes an annual Organization and Talent Review in which career aspirations of associates are discussed. The review includes the assessment of strengths, weaknesses and potential and development plans are designed. The Organization and Talent Review has become an essential tool for top management in succession planning, and the scope of the program has steadily expanded from a few dozen executives a decade ago to almost 22,000 prospective leaders today.

The core principles of compensation policy and people development have engendered both superior performance and sustained leadership. Novartis has reported record net sales and net income and raised the annual dividend payout to shareholders for 14 consecutive years.

COMPENSATION SYSTEM

Board of Directors

As a global healthcare company, Novartis has established the level of Board compensation to ensure the ability to attract and retain high-caliber members. Board members do not receive variable compensation, underscoring their focus on the long-term corporate strategy and their supervisory role.

The compensation of the Chairman is based on a contract. The compensation of the other Board members is determined by the Board of Directors each year, based on a proposal by the Compensation Committee. Board members are required to own at least 5,000 Novartis shares within three years after joining the Board of Directors.

COMPENSATION OF THE CHAIRMAN

The Chairman receives fixed annual compensation. One third is paid out in monthly cash installments; the remaining two thirds are in the form of unrestricted Novartis shares which are granted to him each year.

COMPENSATION OF THE OTHER BOARD MEMBERS

The other Board members receive an annual Board membership fee and additional fees for committee chairmanships, committee memberships and other functions. Board members do not receive additional fees for attending meetings.

The other Board members can choose to receive their fees in cash, shares or a combination of both. Board members do not receive share options.

COMPENSATION STRUCTURE

	Board compensation	Executive Committee compensation
Fixed compensation	Yes	Yes
Variable compensation	No	Yes

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Executive Committee Members and Other Associates

Novartis aspires to be an employer of choice and to attract and retain the best in class talent worldwide. Novartis offers associates competitive compensation, underscoring our pay for performance philosophy.

The compensation awarded to Novartis associates, including the Executive Committee members, reflects the market value of skills, business results, individual contribution and meeting key behavioral standards.

The compensation framework for Novartis associates is based on four key compensation principles and includes three primary elements: base compensation, variable compensation and benefits. Variable compensation takes concrete form in short-term and long-term compensation plans.

Compensation Principles

Our compensation policies and plans are based on four key principles:

Competitive compensation

Pay for performance

Balanced rewards to create sustainable value

Equity ownership

Competitive Compensation

Competitive compensation is essential to attract and retain tal- ented and diverse associates. Our compensation levels reflect total compensation for comparable positions at relevant benchmark companies.

For example, an associate who achieves his or her performance objectives is generally awarded compensation comparable to the median level of compensation provided by relevant benchmark companies. In case of over- or under-performance, the actual total compensation delivered is adjusted accordingly and may significantly differ from the benchmark median.

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Novartis participates in several compensation benchmarking surveys that provide details on levels of salary, target and actual annual incentives and long-term incentives, the relative mix of short- and long-term incentives, and the mix of cash- and share-based compensation. Benchmark companies vary with and are dependent on the nature of the positions concerned.

For specific pharmaceutical positions, the benchmark group of industry competitors for our 2010 benchmark survey consisted of the following companies:

For other positions we included companies outside our industry, with stature, size, scope and complexity that approximate our own, in recognition of the fact that competition for senior executive talent is not limited to the pharmaceutical industry.

The compensation benchmarking surveys, which analyze factors such as recent market trends and best practices, are conducted by well-established global compensation consultancy firms. These surveys are checked and supplemented by input from the Compensation Committee's independent advisor, Pearl Meyer & Partners LLC.

Pay for Performance

To foster a high performance culture, Novartis applies a uniform People Performance Management process worldwide, based on clear quantitative and qualitative criteria.

Novartis associates, including the Executive Committee members, are subject to a formal process of objective setting and performance appraisal.

For each performance year, line managers and their direct reports jointly determine performance measures and business objectives. These objectives are derived from the business objectives established at the Group, division, function, country or business area levels.

Two reviews are carried out each year a mid-year and a year-end review. These reviews consist of formal meetings between associates and line managers to evaluate performance. In assessing performance, line managers focus on results-oriented measures, as well as on how results were achieved.

Decisions and actions leading to results must be consistent with Novartis Values and Behaviors, which describe the desired conduct of associates and set boundaries and guidelines as an important building block for the culture of our Group. The Novartis Values and Behaviors provide a focus on quality, commitment, candor, compassion, loyalty and integrity.

Because performance appraisals impact significant elements of reward, we ensure each year that there is consistency of performance ratings across the entire Group.

Based on the year-end performance rating, line managers and next-level line managers determine the incentive awards for each associate under review, as well as the target compensation for the coming year.

To encourage and reward sustained superior performance, total compensation may reach levels comparable to top quartile levels of compensation offered by the relevant benchmark companies.

Any incentive compensation paid to key executives, including the Executive Committee members, is subject to a "clawback" by Novartis. This means that Novartis will hold back or seek to recover incentive

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compensation where the payout has been proven to conflict with internal management standards, accounting procedures or a violation of law.

Balanced Rewards to Create Sustainable Value

Shareholders expect their investment to deliver sustainable returns while at the same time ensuring that risks are appropriately managed.

Novartis incentives underpin the long-term strategic planning that is essential to address the challenges of innovation and the long development and commercialization cycles that characterize our industry. Appropriate objective setting combined with proper incentive plan design allow our leaders and associates to focus on shaping the future, rather than simply reacting to change.

We believe that incentivizing our associates encourages performance, loyalty and entrepreneurship, and creates sustainable value which is in the interest of Novartis and our shareholders.

Equity Ownership

Investors want the leaders of companies in which they invest to act as owners. That alignment works best when Board members and key executives hold meaningful equity investments in their company.

Accordingly, Novartis imposes share ownership guidelines on approximately 30 of our key executives.

Key executives are required to own at least a certain multiple of their annual base compensation in Novartis shares or share options. The Chief Executive Officer is required to own Novartis equity worth five times, the other Executive Committee members three times, and other key executives one to two times (position specific) their respective base compensation within three years of hire or promotion. In the event of a substantial drop in the share price, the Board of Directors may, at its discretion, extend that time period.

The Compensation Committee reviews compliance with the share ownership guidelines on an annual basis.

Compensation Elements

Primary elements of our compensation system are:

Base compensation a fixed annual salary

Variable compensation rewards for individual and business performance

Benefits including pension and healthcare benefits, as well as perquisites

In the summary table below, "short-term" is understood to be performance or equity holdings of less than 12 months and "long-term" more than 12 months.

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Base Compensation

Base compensation rewards associates for their key areas of responsibilities and reflects job characteristics, seniority, experience and skill sets. It is paid in cash, typically monthly, and is set according to local practice, designed to provide our associates with fixed compensation to ensure a reasonable standard of living relative to that offered by our peer companies.

In general, base compensation is reviewed annually to ensure that competitive pay is maintained and undesired fluctuations are minimized.

Base compensation also serves as the basis for determining the variable compensation.

Variable Compensation

Variable compensation is determined by the nature of the business, role, level, local market practice, business performance and an associate's individual performance.

Variable compensation is a combination of short-term and long-term incentives. Special emphasis is placed on long-term incentives to align the interests of our associates with those of shareholders. This emphasis on long-term incentives also reflects the crucial importance of innovation and the long product development and commercialization cycles that characterize our industry.

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The table below provides an example of the components to assess performance and how these components are typically weighted.

Variable compensation may be granted in cash, shares, share units or share options, depending on the compensation plan. For purposes of the conversion of variable compensation into shares, share units or share options, the conversion values of a Novartis share and share option are the closing prices on the grant date, which for 2010 performance was January 19, 2011.

Short-Term Incentive Plans

Awards under the short-term incentive plans are made each year, calculated by the following formula:

Under these plans, Novartis defines target incentive percentages of base compensation for each participating associate at the beginning of each performance period traditionally the start of a calendar year. Target incentive percentages may reach up to 100% of base compensation.

The business performance multiplier is based on the performance of the Group or business area and may range from 0 to 1.5.

The individual performance multiplier is based on achievement of individually set performance objectives as well as meeting key behavioral standards (Novartis Values and Behaviors). It may range from 0 up to 1.5.

In general, the business performance multiplier combined with the individual performance multiplier may not exceed 2. For exceptional performance, however, higher performance multipliers may apply. Such cases require the approval of the Chief Executive Officer and, for Executive Committee members and key executives, also the approval of the Compensation Committee.

This broad range of target incentive percentages and multipliers allows for meaningful differentiation on a pay for performance basis.

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Associates in certain countries and certain key executives world-wide are encouraged to receive their annual incentive awards fully or partially in Novartis shares instead of cash by participating in a leveraged share savings plan.

Under leveraged share savings plans, Novartis matches investments in shares after a holding period. In general, no shares are matched under these plans if an associate leaves Novartis prior to expiration of the holding period for reasons other than retirement, disability or death.

Novartis has three main leveraged share savings plans:

The Swiss Employee Share Ownership Plan (ESOP) is available in Switzerland to approximately 12,000 associates. Participants within this plan may choose to receive the incentive (i) 100% in shares, (ii) 50% in shares and 50% in cash or (iii) 100% in cash. After expiration of a three-year holding period of Novartis shares granted under the ESOP, each participant will receive one free matching share for every two Novartis shares granted. A total of 5,454 associates chose to receive shares under the ESOP for their performance in 2010.

In the United Kingdom, approximately 2,900 associates can invest up to 5% of their monthly salary in shares (up to a maximum of GBP 125) and also may be invited to invest all or part of their net incentive in shares. Two invested shares are matched with one share after a holding period of three years. During 2010, approximately 1,610 associates participated in this plan.

26 key executives worldwide were invited to participate in a Leveraged Share Savings Plan (LSSP) as part of compensation for performance in 2010. Their annual incentive was awarded in shares and blocked for five years. At the end of the investment period, Novartis matches the invested shares at a ratio of 1:1 (i.e., one share awarded for each invested share).

Associates may only participate in one of these plans in any given year.

Long-Term Incentive Plans

Equity Plan "Select"

Each year, associates, including Executive Committee members, may be eligible for a grant under the Equity Plan "Select." The grant amount is determined on the basis of business and individual performance. No awards are granted for performance ratings below a certain threshold. Grants can be taken in the form of shares, share options, or a combination of both. In some jurisdictions Restricted Share Units (RSU) are granted rather than shares. In Switzerland, the participants in this plan can elect between shares or RSUs and share options, or a combination of both.

Each share is entitled to voting rights and payment of dividends during the vesting period.

Each RSU is equivalent in value to one Novartis share and is converted into one share at the vesting date. RSUs do not carry any dividend or voting rights.

Each share option granted to associates entitles the holder to purchase one Novartis share at a stated exercise price that equals the closing market price of the underlying share at the grant date (January 19, 2011 for performance grants in 2010). If associates in North America choose to receive part or all of their grant under the Equity Plan "Select" in share options on American Depositary Shares (ADSs), the resulting number of share options is determined by dividing the respective incentive amount by a value that equals 95% of the value of the options on ADS as determined in accordance with International Financial Reporting Standards (IFRS). For associates in other countries, the divisor equals 90% of the IFRS value of options on shares.

Share options are tradable, when vested, and expire on their tenth anniversary. Shares and tradable share options have a vesting period of two years in Switzerland and three years in other countries. As mentioned above, to further strengthen the relationships between our associates' long-term interests and

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those of the Group and our shareholders, the Compensation Committee decided to adjust the vesting period in Switzerland from two to three years as of 2011 performance onwards. If a participant leaves Novartis for reasons other than retirement, disability or death, unvested shares, RSUs and share options are forfeited, unless determined otherwise by the Compensation Committee (for example, in connection with a reorganization or divestment).

The terms of the share options granted since 2007 are shown in the table below.

TERMS OF SHARE OPTIONS

Grant year	Exercise price (CHF/USD)	Vesting (years) (CH/other countries)	Term (years)
2011	54.70/57.07	2/3	10
2010	55.85/53.70	2/3	10
2009	53.65/46.42	2/3	10
2008	64.05/57.96	2/3	10
2007	72.85/58.38	2/3	10

As of December 31, 2010, 94.7 million share options granted to associates were outstanding, covered by an equal number of shares and corresponding to 3.8% of the total number of outstanding Novartis shares (excluding treasury shares).

A total of 10,796 participants received 0.9 million restricted shares, 5.4 million RSUs and 17.5 million share options under the Novartis Equity Plan "Select" for their performance in 2010, representing a participation rate of about 11% of all full-time equivalent associates worldwide.

To further strengthen alignment of the interests of Executive Committee members with those of the Group and our shareholders, the Compensation Committee decided to decrease the target incentives for Executive Committee members under the Equity Plan "Select" for the performance year 2010 onwards and to increase the target incentives under the Long-Term Performance Plan for these executives. Approximately 5% of the total equity value awarded under the Equity Plan "Select" was granted to the Executive Committee members.

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Long-Term Performance Plan

The Long-Term Performance Plan is an equity plan for key executives based on a three-year performance period.

At the beginning of the performance period, plan participants are allocated RSUs, which may be converted into Novartis shares after the performance period.

At the end of the performance period, the Compensation Committee adjusts the number of RSUs based on actual performance. The performance is measured by Group Economic Value Added (EVA), a formula to measure corporate profitability while taking into account the cost of capital. The performance target is the sum of three annual Group EVA targets. No incentive is awarded if actual Group EVA performance fails to meet a pre-determined threshold (or if the participant leaves Novartis during the performance period for reasons other than retirement, disability or death). For outstanding Group EVA performance, the adjustment can go up to 200% of the target incentive.

At the Award date, RSUs are converted into unrestricted Novartis shares without a vesting period. In the United States, awards may also be delivered in cash under the Deferred Compensation Plan.

As referred to above, to emphasize the alignment of our Executive Committee members' interests with those of the Group and our shareholders, the Compensation Committee decided to decrease the target incentives for Executive Committee members under the Equity Plan "Select" for the performance year 2010 onwards and to increase the target incentives under the Long-Term Performance Plan for these executives.

On January 19, 2011, 117 key executives were awarded Novartis shares under the Novartis Long-Term Performance Plan, based on Group EVA achievement over the performance period 2008 to 2010.

LONG-TERM PERFORMANCE PLAN PARTICIPANTS HISTORY

Grant year = Target setting	Performance period	Award year = Payout in shares	Plan participants (number of key executives)
2011	2011-2013	2014	127
2010	2010-2012	2013	131
2009	2009-2011	2012	132
2008	2008-2010	2011	117

Special Share Awards

Selected associates may exceptionally receive special awards of restricted or unrestricted shares or RSUs. These special awards are discretionary, providing flexibility to attract talent or to reward particular achievements or exceptional performance. They may also serve to retain key contributors.

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Restricted special awards generally have a three to five-year vesting period. If an associate leaves Novartis for reasons other than retirement, disability or death, unvested shares or RSUs are generally forfeited. Worldwide 389 associates at different levels in the organization were awarded a total of 1.1 million shares or RSUs in 2010.

Objective Setting

Compensation of Executive Committee members is highly linked to Group performance against performance objectives. Divisional performance objectives include the following key metrics:

These metrics are designed to appropriately balance short-term and long-term objectives. On the one hand, objectives are set at ambitious levels each year to motivate a high degree of business performance with emphasis on longer-term financial objectives. On the other hand, they are also designed to avoid inappropriate or excessive risk.

Source of Awarded Shares

Novartis uses shares repurchased in the market to fulfill obligations to deliver shares as required by the variable compensation plans and special share awards.

Novartis does not have any approved conditional capital to obtain shares for delivery of our share awards.

Benefits

The primary purpose of pension and healthcare plans is to establish a level of security for associates and their dependents in respect of age, health, disability and death. The level of pension and healthcare benefits provided to associates is country-specific and is influenced by local market practice and regulations, and is reviewed regularly.

The Group has a policy to change from defined benefit pension plans (DB) to defined contribution pension plans (DC). Implementation of this policy is well underway. The shift to a defined contribution plan for the Swiss pension fund, the Group's largest, took effect on January 1, 2011.

Novartis may provide other benefits in a specific country according to local market practice and regulations, including long-service awards and perquisites. Associates who have been transferred on an international assignment can also receive benefits in line with the Novartis policies.

Risk Management

Our compensation system encourages entrepreneurship but does not reward inappropriate or excessive risk taking and short-term profit maximization at the expense of the long-term health of Novartis. The following characteristics of our compensation system foster a culture of entrepreneurial risk management:

People Performance Management Process: A rigorous People Performance Management process is in place based on agreed upon objectives, values and behaviors reflecting meritocracy. The performance is monitored and periodically discussed with the associates.

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Balanced Scorecard Approach to Performance-based Incentives: Financial objectives include net sales, operating income, free cash flow as a percentage of sales and Group Economic Value Added (EVA). Non-financial objectives emphasize the achievement of strategic and leadership objectives, and managing people, but also innovation as well as process and productivity improvement. Under the incentive plans, performance multipliers may, in general, not exceed 2 on a combined basis.

Performance Period and Vesting Schedules: For long-term incentives, performance period and vesting schedules overlap, reducing the motivation to maximize performance in any one period. The Long-Term Performance Plan is an equity plan based on a three-year performance period. The equity awarded under the Equity Plan "Select" vests either after a period of two or three years, depending on the country.

Balanced Mix of Compensation Elements: The target compensation mix is not overly weighted toward annual incentive awards but represents a combination of cash and long-term share-based compensation vesting over two or three years, depending on the incentive plan.

Novartis Values and Behaviors: Compliance and ethical conduct are integral factors considered in all performance reviews.

No Severance Payments or Change-of-Control Arrangements: No employment contract with Executive Committee members contains unusually long notice periods, change-of-control clauses and severance payments.

Clawback: We implemented "clawback" provisions in individual employment contracts of all Executive Committee members as well as in incentive plans, and award letters to associates allowing Novartis to hold back or seek to recover incentive compensation where the payout has been proven to conflict with internal management standards, accounting procedures or a violation of law.

COMPENSATION GOVERNANCE

Legal Framework

The Swiss Code of Obligations as well as the Corporate Governance Guidelines of the SIX Swiss Exchange require listed companies to disclose certain information about the compensation of Board members and the Executive Committee members, their equity participation in the Group as well as loans made to them. This Compensation Report fulfills that requirement. In addition, our Compensation Report is in line with the principles of the Swiss Code of Best Practice for Corporate Governance of the Swiss Business Federation (economiesuisse).

Decision-Making Authorities

Authorities for decisions related to compensation are governed by the Articles of Incorporation, the Board Regulations and the Compensation Committee Charter, which are published on the Novartis website: www.novartis.com/corporate-governance.

The Compensation Committee serves as the supervisory and governing body for compensation policies and plans within Novartis. It reviews and proposes compensation policies and plans for approval by the Board of Directors. The Compensation Committee also reviews and approves the employment contracts and the individual compensation for selected key executives, including the Executive Committee members.

The Compensation Committee is composed exclusively of Board members, who meet the independence criteria set forth in our Board Regulations. Currently, the Compensation Committee has the following five members: Marjorie M.T. Yang (chair), William Brody, Srikant Datar, Ulrich Lehner and Hans-Joerg Rudloff. In 2010, the Compensation Committee held four meetings. The meetings held in

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January 2010 had the primary purpose of reviewing the performance of the businesses and the respective management teams and determining compensation for the Executive Committee members.

All compensation plans and levels are reviewed regularly based on publicly available data as well as on analyses by independent compensation research companies and external compensation advisors. Trends and developments in the field of compensation and corporate governance are carefully analyzed, reviewed and discussed on an ongoing basis with outside experts and advisors. The authorization levels are shown below:

Compensation Authorization Levels

Decision on	Recommendation	Authority
Compensation of Board members	Compensation Committee	Board of Directors
Compensation of the Chief Executive Officer	Chairman of the Board	Compensation Committee
Compensation of the other Executive Committee members and other selected key executives	Chief Executive Officer	Compensation Committee
Annual incentive plans and Equity Plan "Select"	Chief Executive Officer	Compensation Committee
Long-Term Performance Plan	Chief Executive Officer	Compensation Committee
Special Share Awards	Chairman of the Board or Chief Executive Officer	Compensation Committee

Compensation Committee Advisor

The Compensation Committee currently uses Pearl Meyer & Partners LLC as its independent external compensation advisor. The advisor is independent from management and does not perform any other consulting work for Novartis. The key task of the advisor is to assist the Compensation Committee in ensuring that the Novartis compensation policies and plans are competitive, correspond to market practice and are in line with our compensation principles.

The Compensation Committee enters into a consulting agreement with its independent advisor on an annual basis. In determining whether or not to renew the engagement with the advisor, the Compensation Committee evaluates the quality of the consulting service and annually assesses the projected scope of work for the coming year.

Based on the appraisal for 2010, the Compensation Committee determined that the advisor is free of any relationships that would impair professional judgment and advice to the Compensation Committee.

COMPENSATION 2010

Board of Directors

Chairman

In January 2010, the Board of Directors accepted the proposal of Daniel Vasella, M.D., to complete the succession process and hand over his responsibilities as Chief Executive Officer of Novartis to Joseph Jimenez, effective February 1, 2010. Dr. Vasella had served as Chief Executive Officer for 14 years and as

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Chairman of the Board of Directors for 11 years. Dr. Vasella continues in his role as Chairman of the Board of Directors, concentrating on strategic priorities.

Under a new contract, the Chairman receives fixed annual compensation. One third is paid out in monthly cash installments; the remaining two thirds are in the form of unrestricted Novartis shares which are granted to him each year. He no longer may participate in any of the variable compensation plans described above.

Following his term as Chairman, Dr. Vasella agreed to continue to make available his know-how to Novartis and to refrain from activities that compete with any business of Novartis for a multi-year period. Dr. Vasella will receive fair market compensation in return for his services and for complying with the restriction not to compete.

In addition, the contract provided for additional retirement benefits through a one-time payment of CHF 12 million in the form of an insurance policy.

Other Board Members

The other Board members receive an annual Board membership fee and additional fees for committee chairmanships, committee memberships and other functions to reflect their increased responsibilities and engagements. Board members do not receive additional fees for attending meetings.

Board members do not receive variable compensation, underscoring their focus on the long-term corporate strategy and their supervisory role. The Board of Directors determines the compensation of the other Board members each year, based on a proposal by the Compensation Committee.

The fee rates for the other Board members are the following:

Other Board Member Annual Fee Rates

	Annual fee (CHF)
Board membership	350,000
Vice Chairman	50,000
Chairman's Committee membership	150,000
Audit and Compliance Committee membership	100,000
Risk Committee membership	50,000
Compensation Committee membership	50,000
Corporate Governance and Nomination Committee membership	50,000
Delegated board membership[1]	125,000

(1) The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD). The Board of Directors has delegated both, Rolf M. Zinkernagel and William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

The other Board members can choose to receive their fees in cash, shares or a combination of both. Board members do not receive share options.

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Board Member Compensation in 2010[1]

	Board membership	Vice Chairman	Chairman Committee	Audit and Compliance Committee	Risk Committee	Compen-sation Committee	Corporate Governance and Nomination Committee	Delegated board membership	Annual cash compensation (CHF)	Shares (number)	Other (CHF)[2]	Total (CHF)[3]
Daniel Vasella	Chair		Chair	[4]	[4]	[4]		[4]	3,666,674	131,304	189,260	7,950,791[5]
Ulrich Lehner							Chair		1,110,000		59,034	1,169,034
Hans-Joerg Rudloff									750,000		37,666	787,666
William Brody[6]									375,000	2,686		525,013
Srikant Datar				Chair					459,688	1,797		560,050
Ann Fudge									250,000	2,686		400,013
Alexandre F. Jetzer-Chung[7]									350,000		17,722	367,722
Pierre Landolt[8]									106,000	5,265	22,604	422,654
Andreas von Planta					Chair				453,000	1,916	28,344	561,307
Wendelin Wiedeking									150,875	6,252	26,593	526,642
Marjorie M.T. Yang						Chair			410,000		23,133	433,133
Rolf M. Zinkernagel[9]									650,000		33,677	683,677
Total									**8,731,237**	**151,906**	**438,033**	**14,387,702**

(1) Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not compensation. All shares were granted as per January 19, 2010 against the prevailing share price of CHF 55.85.

(2) Pension and social security costs due by the individual and paid by the company.

(3) A Board member who is tax resident in Switzerland can voluntarily choose to block the shares. In 2010, Daniel Vasella blocked his shares for ten years and Andreas von Planta for five years. The value of the shares reflected in this table has been calculated using the valuation methodology described on page 201.

(4) Daniel Vasella attended the meetings of this Committee as a guest from February 1, 2010.

(5) Does not include Board member compensation received from Alcon, Inc.

(6) The Board of Directors has delegated William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

(7) In addition, Alexandre F. Jetzer-Chung was paid CHF 380,004 for consulting services.

(8) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of the compensation.

(9) The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD) and to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

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Executive Committee Members

Process for Performance Appraisal and Compensation Setting for the Chief Executive Officer

At the beginning of a business year, the Chairman meets with the Chief Executive Officer to discuss and set his objectives for the coming year. The Board of Directors reviews and approves these objectives, ensuring that they are in line with the Group's goals of fostering sustainable performance, balancing short- and long-term goals, and does not reward inappropriate or excessive risk taking at the expense of the long-term health of the Group.

At the end of a business year, the Chief Executive Officer prepares and presents to the Chairman and the Board of Directors a self-appraisal assessing actual results against the previously agreed objectives, taking into account the audited financial results as well as Novartis Values and Behaviors. The Board of Directors discusses the self-appraisal without the Chief Executive Officer being present. It evaluates the extent to which targeted objectives have been achieved and, to the extent possible, compares these results with peer industry companies, taking into account general financial criteria and industry developments. The Board of Directors shares its appraisal with the Chief Executive Officer afterwards. Based on this appraisal, the Compensation Committee decides upon the Chief Executive Officer's total compensation and the target compensation for the coming year. The Compensation Committee takes into account all relevant factors, including available benchmark information and the advice of the Compensation Committee advisor.

Process for Performance Appraisal and Compensation Setting for the other Executive Committee Members

In January, the Board of Directors meets with the Chief Executive Officer to review and discuss the performance of the other Executive Committee members for the previous year, taking into account the audited financial results, the level of achievement of financial and non-financial objectives as well as Novartis Values and Behaviors.

In a separate session, the Compensation Committee decides, in the presence of the Chief Executive Officer and based on his recommendations, on the variable compensation for the other Executive Committee members and other selected key executives for the previous year. At the same meeting, the Compensation Committee decides on the target compensation for these executives for the coming year.

In addition to the full year, the mid-year performance of the other Executive Committee members is reviewed in August. At the same time, the Board of Directors also carries out a mid-year review of the performance of the individual businesses.

Challenging Performance Objectives

Compensation of Executive Committee members is highly linked to business performance against performance objectives. The metrics of performance objectives, including net sales, operating income, market share, Group Economic Value Added (EVA) or innovation, are designed to appropriately balance short-term and long-term objectives. On the one hand, objectives are set at ambitious levels each year to motivate a high degree of business performance with emphasis on longer term financial objectives. On the other hand, they are also designed to avoid inappropriate or excessive risk.

Novartis does not disclose specific objectives or their weightings because it would signal areas of strategic focus and impair the Group's ability to leverage these areas for competitive advantage. For example, disclosure of our cash flow objectives would provide insight into timing of large capital investments or acquisitions. In addition, knowledge of the objectives could be used by competitors to target the recruitment of key executives from Novartis. Disclosing specific objectives and metrics would also give our competitors insight into key market dynamics and areas that could be used against Novartis competitively by industry consultants or competitors targeting existing customers.

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Objectives for Variable Compensation of the Chief Executive Officer

The financial criteria for short-term performance appraisal typically include growth objectives for net sales, operating income, net income and earnings per share. For long-term performance appraisal, the financial criterion is Group Economic Value Added (EVA).

Non-financial objectives typically include successful acquisitions, disposals and licensing transactions; Research and Development performance; product launches; successful implementation of growth or cost containment initiatives; process improvements; the successful launch or closures of sites or operations; or leadership and people management.

Performance in 2010

At its meeting on January 18, 2011, the Compensation Committee decided on the amounts of variable compensation for 2010 for the Executive Committee members by applying the principles described above. The specific compensation decisions made for the Chief Executive Officer and the Executive Committee members reflect their achievements against the financial and non-financial performance objectives established for each of them at the beginning of the year.

The achievements were assessed from both a quantitative and a qualitative perspective, with the Compensation Committee using its judgment in concert with a review of metrics. This is in line with Novartis best practice in assessing a senior executive's performance.

The Compensation Committee recognized the following key accomplishments:

- The Pharmaceuticals Division achieved strong volume growth of 8 percentage points, significantly higher than the industry average, as sales of recently launched products reached $6.6 billion, or 21% of the division's sales, a significant increase from 16% of sales compared to the previous year;

- Sandoz delivered double-digit growth driven by launches of first-to-market differentiated, complex generics in the US, such as the low molecular weight heparin enoxaparin; continued growth of biosimilars; and growth rates several times faster than the market in Central and Eastern Europe, as well as Turkey and the Middle East;

- The Consumer Health Division overcame the effects of the global recession and increased net sales by 6% in constant currencies, growing ahead of market in all businesses thanks to strong performance of several key brands;

- The Vaccines and Diagnostics Division increased net sales to $2.9 billion and achieved approval of *Menveo*. Deliveries of influenza A (H1N1) pandemic vaccines generated $1.3 billion in sales during the first half of the year;

- The ability to consistently launch new and better products and thus establish market positions is decisive for sustainable success among the most important approvals were *Gilenya*, the first oral medicine for first-line treatment of relapsing forms of multiple sclerosis approved in the US, and *Tasigna,* which was approved for treatment of patients with newly diagnosed chronic myeloid leukemia in the US, EU, Japan and Switzerland;

- Since August 2010, Novartis has held majority ownership of Alcon, Inc., the global leader in eye care and plans to fully integrate Alcon into Novartis. This will provide shareholders with a new growth platform and allow realization of substantial synergies between the two organizations; and

- During 2010 Novartis was able to further expand its presence in emerging countries and achieved sales growth of 12% in six key emerging markets compared with the previous year.

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Compensation for Performance in 2010

The compensation table on the following page discloses the compensation granted to the Executive Committee members for performance in 2010. The following paragraphs describe the principles underlying the data in the table.

Alignment of Reporting and Performance. The compensation table synchronizes the reporting of annual compensation with the performance in the given year, i.e., all amounts awarded for performance in 2010, including the future ESOP/LSSP match, are disclosed in full.

Disclosure Structure. The compensation table shows the compensation granted to each Executive Committee member for performance in 2010 for all compensation elements base compensation, variable compensation and benefits as described above.

The column "Future ESOP/LSSP match" reflects shares to be awarded in the future if the Executive Committee member remains with Novartis for at least three or five years, respectively. The Executive Committee members were invited to invest their annual incentive awards for 2010 in the leveraged share saving plans either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP) to further align their interests with those of our shareholders. Under the plan rules, participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period. Under the three-year ESOP, for every two shares invested, the participant receives one matching share. Under the five-year LSSP, each share invested entitles the participant to receive one matching share. If a participant leaves Novartis prior to the expiration of the vesting period, in general, no matching shares are awarded.

Valuation Principles. Shares, RSUs and share options under the variable compensation plans are generally granted with a vesting[(1)] period. In addition, associates in Switzerland, including the Executive Committee members, may block[(2)] shares received under any variable compensation plan for up to 10 years.

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(1) Vesting refers to the waiting period under a share-based incentive plan that must expire before the associate becomes irrevocably entitled to the shares, RSUs or share options involved. The associate cannot sell or exercise unvested share, RSUs or share options. If an associate leaves Novartis prior to the expiration of the vesting period for reasons other than retirement, disability or death, the associate will generally forfeit rights to such shares, RSUs or share options.

(2) Blocking refers to the ability of associates in Switzerland to opt for an extended trading restriction period of up to 10 years from the award date (including vesting). Novartis encourages associates to block their shares because doing so aligns the associates' interests with those of shareholders.

The Compensation Committee believes that such restrictions affect the value of the shares, RSUs and share options.

The Swiss Federal Tax Administration, in its "Kreisschreiben Nr. 5", provides for a methodology pursuant to which unvested or blocked shares or share options shall be valued with a discount for each year they are unvested or blocked. In addition, for the valuation of share options, the Swiss Tax Authorities apply in a standing practice for Novartis (since 1997) an option valuation model based on Black-Scholes.

In the Compensation Committee's view, this is the appropriate methodology to report the economic value of shares, RSUs and share options for executive compensation under Swiss law because, unlike IFRS, it takes into account the trading restrictions due to vesting and blocking. The application of this methodology to determine the value of the shares, RSUs and share options granted for the year 2010 is explained in footnote 9 to the Executive Committee Member Compensation table below and applies to all Executive Committee members.

See "Item 18. Financial Statements note 27" for information on Executive Officer and Director compensation as calculated under IFRS.

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Executive Committee Member Compensation for Performance in 2010[1]

		Base compensation	Variable compensation							Benefits		Total		Total compensation
			Short-term incentive plans	Long-term incentive plans										
	Currency	Cash (Amount)	Cash (Amount)[2]	Shares (Number)[3]	Equity Plan "Select" Shares (Number)[4]	Options (Number)[5]	Long-Term Performance Plan Shares (Number)[6]	Special share awards Shares (Number)[7]		Pension benefits (Amount)[8]	Other benefits (Amount)[9]		Future ESOP/ LSSP match[10] Shares (Number)	Including future ESOP/ LSSP match[11],[12] (Amount)
Joseph Jimenez (Chief Executive Officer since February 1, 2010)	CHF	1,458,334	590,000	16,180	124,552		37,088			166,162	92,287	11,060,421	16,180	11,721,780
Juergen Brokatzky-Geiger	CHF	678,338		12,432	24,863		11,435			146,470	11,965	2,729,841	12,432	3,109,563
David Epstein (since February 1, 2010)[13]	USD	779,167	358,359	7,944	38,646		17,031			184,984	85,309	4,570,330	7,944	4,909,104
Mark C. Fishman	USD	968,000	14,036	16,716	67,847		31,006			256,555	122,518	7,094,527	16,716	7,807,400
Jeff George (since February 1, 2010)[13]	CHF	595,833	589,783		10,782	129,613	4,913	9,167		62,006	47,226	2,574,092		2,574,092
George Gunn (since February 1, 2010)[13]	CHF	756,250	862,217		27,364		13,840			98,780	14,529	3,820,992		3,820,992
Andrin Oswald (since February 1, 2010)[13]	CHF	595,833	577,317		21,105		6,488	9,167		65,063	27,818	2,635,810		2,635,810
Jonathan Symonds (since February 1, 2010)[13]	CHF	770,000		14,022	29,159		6,772			125,650		2,937,515	14,022	3,510,676
Thomas Werlen	CHF	725,008		10,010	10,010	120,330	13,718			122,617	22,366	2,442,364	10,010	2,670,839
Total[14]	**CHF**	**7,397,668**	**3,006,825**	**77,304**	**354,328**	**249,943**	**142,291**	**18,334**		**1,246,206**	**432,452**	**40,339,284**	**77,304**	**43,276,326**

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(1) Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not considered compensation.

(2) Participants elected to invest some or all of the value of their incentive in the five-year Leveraged Share Savings Plan (LSSP) or the three-year Swiss Employee Share Ownership Plan (ESOP; if eligible) rather than to receive cash.

(3) Juergen Brokatzky-Geiger, Andrin Oswald and Thomas Werlen have voluntarily blocked these shares for ten years, Jonathan Symonds for five years. These blocking periods include the two year vesting period.

(4) Novartis share options granted under the Novartis Equity Plan "Select" are tradeable. Share options granted outside North America will expire on January 19, 2021, have a two-year vesting period in Switzerland (three years in other countries) and have an exercise price of CHF 54.70 per share (the closing price of Novartis shares on the grant date of January 19, 2011). Share options on ADSs granted to participants in North America will expire on January 19, 2021, have a three-year vesting period and an exercise price of USD 57.07 per ADS (the closing price of Novartis ADSs on the grant date of January 19, 2011).

(5) Awarded based on the achievement of Group Economic Value Added (EVA) objectives over the performance period ended December 31, 2010. Jonathan Symonds has voluntarily blocked these shares for five years.

(6) Consists of a special award of RSUs to Jeff George and to Andrin Oswald, both awarded on September 1, 2010, against the closing share price of that day of CHF 54.05. These awarded RSUs have a five-year vesting period.

(7) Service costs of pension and post-retirement healthcare benefits accumulated in 2010, and employer contributions to defined contribution pension plans in 2010.

(8) Includes perquisites and other compensation paid during 2010. Does not include cost allowances and tax-equalization payments regarding the international assignment of David Epstein, Jeff George and Andrin Oswald.

(9) Values of shares and RSUs granted are discounted by 6% per year depending on the length of the combined vesting and blocking period. For example, the value of a share award subject to a two-year vesting/blocking period calculated in accordance with the methodology described in the Kreisschreiben Nr. 5 equals 89% of its market value at the grant date. The value of a share award with a combined vesting/blocking period of ten years equals 55.839% of its market value at the grant date. The closing share price on the grant date January 19, 2011 was CHF 54.70 per Novartis share and $57.07 per ADS. The values of share options granted are reported based on the valuation principles contained in a tax ruling from the Swiss tax authorities, reflecting the principles as disclosed in the aforementioned Kreisschreiben Nr. 5. According to this methodology, tradable share options under the Equity Plan "Select" with a vesting period of two years have a value of CHF 0.89 per option at grant.

(10) Reflects shares to be awarded in the future under the share saving plans, either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP). Participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period. If a participant leaves prior to the expiration of the vesting period, in general no matching shares are awarded. Thomas Werlen has voluntarily blocked these LSSP matching share units for 15 years (including the five-year vesting period). Juergen Brokatzky-Geiger has voluntarily blocked these LSSP matching share units for ten years (including the five-year vesting period).

(11) The values of shares, RSUs and share options reflected in this column have been calculated using the valuation methodology described in footnote 9. Regarding the valuation of matching shares (please see footnote 10) the following applies: if an Executive Committee member has chosen to block the shares to be received in the future under the five-year Leveraged Share Savings Plan for an additional 10 years, leading to a combined vesting/blocking period of 15 years, then the value of the matching shares reflected in the table will be 41.727% of the share price on the grant date. The closing share price on the grant date January 19, 2011 was CHF 54.70 per Novartis share and USD 57.07 per ADS.

(12) All amounts are gross amounts (i.e., before deduction of social security and income tax due by the executives). The employer's share of social security contributions is not included.

(13) The base compensation and pension benefits in the table reflect the compensation over the period from February 1, 2010 to December 31, 2010. The granted variable compensation and other benefits reflect the compensation that is attributable to the period as an Executive Committee member. This means that for these compensation components $^{11}/_{12}$ of the annual compensation is disclosed.

(14)

Amounts in $ for David Epstein and Mark C. Fishman were converted at a rate of CHF 1.00 = $0.961, which is the same average exchange rate used in the Group's consolidated financial statements.

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As shown in the table below, most of executive compensation is variable and awarded in the form of restricted equity. This ensures alignment with the interests of Novartis and its shareholders.

Executive Committee Member Compensation Mix in 2010 Cash and Share-Based Compensation

	Cash[1]	Share-based compensation[2]
Joseph Jimenez	18.5%	81.5%
Juergen Brokatzky-Geiger	23.3%	76.7%
David Epstein	25.9%	74.1%
Mark C. Fishman	14.6%	85.4%
Jeff George	49.1%	50.9%
George Gunn	43.9%	56.1%
Andrin Oswald	46.7%	53.3%
Jonathan Symonds	22.7%	77.2%
Thomas Werlen	29.3%	70.7%
Total	**25.8%**	**74.2%**

(1) Cash includes all benefits except pension benefits.

(2) Shares, RSUs and share options, including future ESOP/LSSP match.

The variable compensation for performance in 2010 awarded to the Executive Committee members amounted to between 314% and 686% of the base compensation.

In 2010, the Executive Committee members earned 17.1% as base compensation, 79.0% as variable compensation, and 3.9% as benefits.

2010 Executive Committee Compensation Elements

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Executive Committee Compensation History

	Executive Committee members	Total compensation (CHF)
2010	9[1]	43,276,326
2009	9	59,952,704
2008	10[2]	55,017,871
2007[3]	11[4]	55,812,695
2006	8	60,988,500
2005	7	51,771,841
2004	6	46,190,589

(1) Does not include the five Executive Committee members who stepped down during 2010. For details on these members see "Compensation 2010 Compensation of the Executive Committee Members Compensation for Executive Committee Members who stepped down during 2010".

(2) Includes Thomas Ebeling who served on the Executive Committee until December 1, 2008.

(3) Since 2007, disclosed compensation includes all amounts awarded for performance in the given year, i.e., the reporting of the annual compensation is synchronised with the performance in that specific year.

(4) Includes Paul Choffat who retired May 11, 2007 and Urs Baerlocher who retired August 31, 2007.

Executive Committee Compensation History in Relation to Net Income

Compensation for Executive Committee Members who Stepped down during 2010

In January 2010, the Board of Directors accepted the proposal of Daniel Vasella, M.D., to complete the succession process and hand over his responsibilities as Chief Executive Officer of Novartis to Joseph Jimenez, effective February 1, 2010. Dr. Vasella had served as Chief Executive Officer for 14 years and as Chairman of the Board of Directors for 11 years. Dr. Vasella continues in his role as Chairman of the Board of Directors, concentrating on strategic priorities.

Raymund Breu stepped down from the Executive Committee as of February 1, 2010. He retired on March 31, 2010, having reached the mandatory retirement age.

With effect from February 1, 2010, Novartis simplified its leadership structure and reduced the size of the Executive Committee from 12 to 9 members. Joerg Reinhardt, Andreas Rummelt and Thomas Wellauer stepped down from the Executive Committee and decided to pursue their careers outside of Novartis.

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Compensation for Executive Committee Members who Stepped down during 2010

	Total compensation (CHF)[1]
Daniel Vasella[2]	14,179,305
Raymund Breu[3]	2,370,073
Joerg Reinhardt[4]	3,524,149
Andreas Rummelt[5]	1,738,299
Thomas Wellauer[6]	2,593,081
Total	**24,404,907**

(1) Compensation has been calculated using the valuation methodology described under " Compensation 2010 Compensation for Performance in 2010 Valuation Principles".

(2) Compensation relates to the period until January 31, 2010 during which Daniel Vasella served in his role as Chairman and Chief Executive Officer. Includes shares to be awarded in the future under the Leveraged Shares Savings Plan (LSSP). Includes a one-time payment of CHF 12 million in the form of an insurance policy and the conclusion of his residual statutory and contractual employment entitlements.

(3) Compensation relates to the period until January 31, 2010 when Raymund Breu stepped down from the Executive Committee. Includes a special award in recognition of his contributions to Novartis.

(4) Compensation relates to the period until Joerg Reinhardt left Novartis.

(5) Compensation relates to the period until Andreas Rummelt left Novartis. Includes a special award in recognition of his contribution to the A (H1N1) project.

(6) Compensation relates to the period until Thomas Wellauer left Novartis. Includes a special award in recognition of his contributions to the procurement savings project. Also includes a special contribution to his pension fund.

Total Compensation to Executive Committee Members in 2010

The aggregate amount of compensation awarded to all Executive Committee members in 2010 (incl. compensation awarded to Executive Committee members who stepped down during 2010) is CHF 67,681,233.

Total Compensation to Executive Committee Members in 2010

	Total compensation (CHF)
Executive Committee member compensation for performance in 2010	43,276,326
Compensation for Executive Committee members who stepped down during 2010	24,404,907
Total	**67,681,233**

SHARE OWNERSHIP

Ownership Guidelines

Investors want the leaders of the companies they invest in to act like owners. In the Board of Directors' view, that alignment works best when Board members and key executives have meaningful portions of their personal holdings invested in the equity of their company. This is why Novartis sets share ownership guidelines for Board members and approximately 30 of the key executives of the Group.

Board members are required to own at least 5,000 Novartis shares within three years after joining the Board of Directors.

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Key executives are required to own at least a certain multiple of their annual base salary in Novartis shares or share options. The Chief Executive Officer is required to own Novartis equity worth five times, the other Executive Committee members three times, and other key executives one to two times (position specific) their respective base compensation within three years of hire or promotion. In the event of a substantial drop in the share price, the Board of Directors may, at its discretion, extend that time period.

The Compensation Committee reviews compliance with the share ownership guideline on an annual basis.

Novartis equity counting against the share ownership requirement includes vested and unvested shares or ADSs acquired under the Novartis compensation plans, as well as RSUs thereof, with the exception of unvested matching RSUs from leveraged share savings plans and unvested RSUs from the Long-Term Performance Plan. In addition, it includes other shares as well as vested options on Novartis shares or ADSs that are owned directly or indirectly by "persons closely linked"[(1)] to the Board member or key executive.

(1) "Persons closely linked" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary.

Shares and Share Options owned by Board Members

The total number of vested and unvested Novartis shares and share options owned by Board members and "persons closely linked"[(1)] to them as of January 19, 2011, is shown in the following tables.

As of January 19, 2011, none of the Board members together with "persons closely linked"[(1)] to them owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

As of December 31, 2010, all Board members who have served at least three years on the Board of Directors complied with the share ownership guidelines.

Shares Owned by Board Members

	Number of shares[(1)]
Daniel Vasella	3,288,608
Ulrich Lehner	22,193
Hans-Joerg Rudloff	40,080
William Brody	5,133
Srikant Datar	17,342
Ann Fudge	6,008
Alexandre F. Jetzer-Chung	80,800
Pierre Landolt[(2)]	35,061
Andreas von Planta	109,580
Wendelin Wiedeking	34,182
Marjorie M.T. Yang	18,000
Rolf M. Zinkernagel	22,800
Total	**3,679,787**

(1) Includes holdings of "persons closely linked" to Board members (see definition on page 207).

(2) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all shares.

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Share Options owned by Board Members

	Number of share options[1]
Daniel Vasella	3,565,366
Ulrich Lehner	
Hans-Joerg Rudloff	24,570
William Brody	
Srikant Datar	
Ann Fudge	
Alexandre F. Jetzer-Chung	9,214
Pierre Landolt[2]	6,911
Andreas von Planta	
Wendelin Wiedeking	
Marjorie M.T. Yang	
Rolf M. Zinkernagel	15,357
Total	**3,621,418**

(1) Includes holdings of "persons closely linked" to Board members (see definition on page 207). The last year in which Novartis granted share options to non-executive Board members was in 2002. In 2002, Novartis granted 79,087 share options to non-executive Board members at an exercise price of CHF 62 and a term of nine years.

(2) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all share options.

Shares and Share Options owned by the Executive Committee Members

The following tables show the total number of vested and unvested Novartis shares (including share units but excluding unvested matching share units from leveraged share savings plans and unvested target units from the Long-Term Performance Plan) and the total number of share options owned by the Executive Committee members as of January 19, 2011.

As of January 19, 2011, no member of the Executive Committee together with "persons closely linked" to them (see definition on page 207) owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

As of December 31, 2010, all Executive Committee members who have served at least three years on the Executive Committee have met or exceeded their personal Novartis ownership requirements.

Shares owned by Executive Committee Members

	Number of shares[1]
Joseph Jimenez	298,366
Juergen Brokatzky-Geiger	199,600
David Epstein	245,201
Mark C. Fishman	385,921
Jeff George	47,613
George Gunn	210,932
Andrin Oswald	90,347
Jonathan Symonds	79,548
Thomas Werlen	109,797

Total	**1,667,325**

(1) Includes holdings of "persons closely linked" to Executive Committee members (see definition on page 207).

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Share Options owned by Executive Committee Members

	Number of share options[1]						
	2011	**2010**	**2009**	**2008**	**2007**	**Other**	**Total**
Joseph Jimenez			552,076	157,266			709,342
Juergen Brokatzky-Geiger			75,705	109,016	55,130	91,306	331,157
David Epstein						590,229	590,229
Mark C. Fishman				184,870	142,724	523,215	850,809
Jeff George	141,396					114,979	256,375
George Gunn						94,371	94,371
Andrin Oswald						5,633	5,633
Jonathan Symonds						54,348	54,348
Thomas Werlen	120,330	171,196	175,912			141,215	608,653
Total	**261,726**	**171,196**	**803,693**	**451,152**	**197,854**	**1,615,296**	**3,500,917**

(1) Share options disclosed for a specific year were granted in that year under the Novartis Equity Plan "Select." The column "Other" refers to share options granted in 2006 or earlier, to share options granted to these executives while they were not Executive Committee members, and to share options bought on the market by the Executive Committee members or "persons closely linked" to them (see definition on page 207).

LOANS AND OTHER PAYMENTS

Loans to Board Members or Executive Committee Members

No loans were granted to current or former Board members or Executive Committee members during 2010. No such loans were outstanding as of December 31, 2010.

Other payments to Board Members or Executive Committee Members

During 2010, no payments (or waivers of claims) other than those set out in the Board Members Compensation table, in the Executive Committee Member Compensation table and in the table of compensation for Executive Committee members who stepped down during 2010 were made to current Board members or Executive Committee members or to "persons closely linked" to them (see definition on page 207).

Payments to former Board Members or Executive Committee Members

During 2010, no payments (or waivers of claims) were made to former Board members or Executive Committee members or to "persons closely linked" to them (see definition on page 207), except for an amount of CHF 62,298 that was paid to the Honorary Chairman.

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Item 6.C Board Practices

INTRODUCTION

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

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

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

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

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

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

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

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

There are encouraging signs that the dangers of this "one size fits all approach" to corporate governance are now being acknowledged not only by the issuers but also by investors and regulators. In 2010 several prominent UK pension funds publicly criticized the new rule in the revised UK Corporate Governance Code recommending annual re-election of company directors. The pension funds criticized the new rule as unnecessary and damaging to the interests of companies and shareholders since the rule would lead to a short-term culture with the risk of effective boards being distracted by short-term voting outcomes rather than allowing for long-term, constructive relationships of investors with the companies in which they invest. Another positive example of addressing "real" corporate governance issues is the willingness of the SEC to investigate, and if necessary regulate, deficiencies in the proxy system, including over/under-voting of shares, issuers not being able to communicate with their shareholders, low voting

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participation of retail investors and potential conflicts of interest and a lack of accuracy and transparency of proxy advisory firms that influence or control a significant percentage of the votes in public companies.

At the heart of good corporate governance lies a strong Board of Directors, which represents the interests of the shareholders and other stakeholders, and the professionalism and integrity of management, creating the foundation for sustainable value. While the size, composition and structure of the Board of Directors are easy to describe and can easily be checked from the outside, it is difficult to demonstrate that the core processes, like information flow and decision making, are state-of-the-art. It is even more difficult, if not impossible, to describe the prevailing board culture, although the latter is essential for its effective function. Novartis aims to foster an atmosphere in which Board members can pose challenging questions, voice dissenting views and secure access to independent information through extensive contacts with senior Novartis executives inside and outside the boardroom. Diversity of a Board of Directors is a critical success factor for its work. The Novartis Board of Directors today is diverse in terms of background, interests and skills.

OUR CORPORATE GOVERNANCE FRAMEWORK

Laws and Regulations

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

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

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

Swiss Code of Best Practice for Corporate Governance

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

Novartis Corporate Governance Standards

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

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

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

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

OUR SHAREHOLDERS

Shares

Share Capital of Novartis AG

The share capital of Novartis AG is CHF 1,318,811,500, fully paid-in and divided into 2,637,623,000 registered shares, each with a nominal value of CHF 0.50. Novartis has neither authorized nor conditional capital. There are no preferential voting shares; all shares have equal voting rights. No participation certificates, non-voting equity securities (Genussscheine) or profit-sharing certificates have been issued.

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

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

Share Repurchase Programs

Novartis began repurchasing its shares in 1999. Since then, five share repurchase programs have been completed with the repurchase of shares worth CHF 19 billion. Shares repurchased under the first program were not cancelled. However, shares repurchased under the other four programs were cancelled. At the Annual General Meeting in February 2008, shareholders authorized the Board of Directors to launch a sixth program to repurchase shares up to a maximum amount of CHF 10 billion via a second trading line on the SIX Swiss Exchange. In 2008, a total of six million shares were repurchased at an average price of CHF 49.42 per share and cancelled. The share repurchase program was suspended in April 2008 in favor of debt repayment. In December 2010, the Board of Directors announced the reactivation of the share repurchase program to minimize dilution to existing Novartis shareholders in connection with the proposed merger of Alcon, Inc. into Novartis. In 2010, no shares were repurchased under the share repurchase program.

Changes in Share Capital

Novartis has not increased its share capital during the last three years.

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As part of various share repurchase programs, Novartis has reduced its share capital as follows:

CAPITAL REDUCTIONS

	Number of shares			
Year of reduction	**As of January 1**	**Shares cancelled**	**As of December 31**	**Amount of capital reduced in CHF**
2006	2,739,171,000	10,200,000	2,728,971,000	5,100,000
2007	2,728,971,000	0	2,728,971,000	0
2008	2,728,971,000	85,348,000	2,643,623,000	42,674,000
2009	2,643,623,000	6,000,000	2,637,623,000	3,000,000
2010	2,637,623,000	0	2,637,623,000	0

A table with additional information on changes in the Novartis share capital can be found in "Item 18. Financial Statements note 18."

Convertible or Exchangeable Securities

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

Shareholdings

Significant shareholders

According to the share register, as of December 31, 2010, the following registered shareholders (including nominees and the ADS depositary) held more than 2% of the total share capital of Novartis with the right to vote these shares:[(1)]

(1) Excluding 6.33% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares.

Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland, holding 4.3% and Emasan AG, with its registered office in Basel, Switzerland, holding 3.3%;

Nominees: JPMorgan Chase Bank, New York (holding 10.7%); Mellon Bank, Everett, Massachusetts (holding 2.9%); Nortrust Nominees, London (holding 2.8%); and

ADS depositary: JPMorgan Chase Bank, New York (holding 9.6%).

According to disclosure notifications filed with Novartis AG and the SIX Swiss Exchange, each of the following shareholders held between 3% and 5% of the share capital of Novartis AG as of December 31, 2010:

Capital Group Companies, Inc., Los Angeles, USA

BlackRock, Inc., New York, USA

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

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

Cross Shareholdings

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

Distribution of Novartis Shares

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

As of December 31, 2010, Novartis had more than 159,000 registered shareholders.

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

Number of Shares Held

As of December 31, 2010	Number of registered shareholders	% of registered share capital
1-100	20,395	0.05
101-1,000	94,370	1.59
1,001-10,000	40,750	4.31
10,001-100,000	3,850	3.79
100,001-1,000,000	501	5.54
1,000,001-5,000,000	77	6.51
5,000,001 or more[1]	35	53.01
Total registered shareholders/shares	**159,978**	**74.80**
Unregistered shares		25.20
Total		**100.00**

(1) Including significant registered shareholders as listed above

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

Registered Shareholders by Type

As of December 31, 2010	Shareholders in %	Shares in %
Individual shareholders	96.01	13.16
Legal entities	3.88	40.21
Nominees, fiduciaries	0.11	46.63
Total	**100.00**	**100.00**

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The following table provides information about registered shareholders by country:

Registered Shareholders by Country

As of December 31, 2010	Shareholders in %	Shares in %
France	2.95	1.40
Germany	4.18	3.63
Switzerland[1]	89.46	44.58
United Kingdom	0.51	3.28
United States	0.38	41.96
Other countries	2.52	5.15
Total	**100.00**	**100.00**

(1) Excluding 6.33% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares

SHAREHOLDER RIGHTS

Right to Vote ("One Share, One Vote")

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

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

Resolutions and Elections at General Meetings

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

An alteration of the purpose of Novartis AG;

The creation of shares with increased voting powers;

An implementation of restrictions on the transfer of registered shares and the removal of such restrictions;

An authorized or conditional increase of the share capital;

An increase of the share capital out of equity, by contribution in kind, for the purpose of an acquisition of property, or the grant of special rights;

A restriction or suspension of rights or options to subscribe;

A change of location of the registered office of Novartis AG; or

The dissolution of Novartis AG.

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

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Other Shareholder Rights

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

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

Shareholder Registration

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

The Articles of Incorporation provide that no shareholder shall be registered with the right to vote for more than 2% of the registered share capital. The Board of Directors may, upon request, grant an exemption from this restriction. Exemptions are in force for the registered Significant Shareholders listed under Our Shareholders Shareholdings Significant Shareholders. In 2010, no exemptions were requested.

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

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

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

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

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

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

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No Restriction on Trading of Shares

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

Change-of-Control Provisions

No Opting Up, No Opting Out

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

CLAUSES ON CHANGES-OF-CONTROL

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

OUR BOARD OF DIRECTORS

Election and Term of Office

All Board members are elected individually.

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

The average tenure of Board members is eight years and the average age is 62. A Board member must retire after reaching age 70. Under special circumstances, shareholders may grant an exemption

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from this rule and re-elect a Board member for additional terms of office of no more than three years at a time.

Name	Nationality	Year of birth	First election at AGM	Last election at AGM	End of current Term
Daniel Vasella, M.D.	CH	1953	1996	2010	2013
Ulrich Lehner, Ph.D.	D	1946	2002	2008	2011
Hans-Joerg Rudloff	D	1940	1996	2010	2011
William Brody, M.D., Ph.D.	US	1944	2009	2009	2012
Srikant Datar, Ph.D.	US	1953	2003	2009	2012
Ann Fudge	US	1951	2008	2008	2011
Alexandre F. Jetzer-Chung	CH	1941	1996	2008	2011
Pierre Landolt	CH	1947	1996	2008	2011
Andreas von Planta, Ph.D.	CH	1955	2006	2009	2012
Dr. Ing. Wendelin Wiedeking	D	1952	2003	2009	2012
Marjorie M.T. Yang	CHN	1952	2007	2010	2013
Rolf M. Zinkernagel, M.D.	CH	1944	1999	2009	2012

Board Member Qualifications

The Corporate Governance and Nomination Committee determines the criteria for the selection of the Board members and Board committee members. Factors considered include skills and knowledge, diversity of viewpoints, professional backgrounds and expertise, business and other experience relevant to the business of Novartis, the ability and willingness to commit adequate time and effort to Board and committee responsibilities, the extent to which personality, background, expertise, knowledge and experience will interact with other Board members to build an effective and complementary Board, and whether existing board memberships or other positions held by a candidate could lead to a conflict of interest.

The biographies of the Board members (see "Item 6.A Directors and Senior Management") set out the particular qualifications that led the Board of Directors to conclude that a Board member is qualified to serve on the Board of Directors, creating a Board that today is diverse in terms of background, qualifications, interests and skills.

Role of the Board of Directors and the Board Committees

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

The Board of Directors has delegated certain responsibilities to five committees: Chairman's Committee, Compensation Committee, Audit and Compliance Committee, Corporate Governance and

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Nomination Committee and Risk Committee as set out below (responsibilities described with the terms "overseeing" or "reviewing" are subject to final approval by the Board of Directors).

Responsibilities	Membership comprises	Number of meetings held in 2010/ approximate average duration of each meeting	Attendance	Link
THE BOARD OF DIRECTORS			**9/6**	
The primary responsibilities of the Board of Directors include: Setting the strategic direction of the Group; Determining the organizational structure and governance of the Group; Appointing, overseeing and dismissing key executives and planning their succession; Determining and overseeing the financial planning, accounting, reporting and controlling; Approving the annual financial statements and the corresponding financial results releases; and Approving major transactions and investments.	**Daniel Vasella**[1] Ulrich Lehner Hans-Joerg Rudloff William Brody Srikant Datar Ann Fudge Alexandre F. Jetzer-Chung Pierre Landolt Andreas von Planta Wendelin Wiedeking Marjorie M.T. Yang Rolf M. Zinkernagel	9 9 9 9 9 9 8 9 9 7 9		Articles of Incorporation of Novartis AG Regulations of the Board of Directors, its Committees and the Executive Committee of Novartis AG (Board Regulations) http://www.novartis.com/corporate-governance
THE CHAIRMAN'S COMMITTEE			**9/2**	
The primary responsibilities of this committee include: Commenting on significant matters before the Board of Directors makes a decision; Recommending key executive appointments to the Board of Directors; Dealing with Board matters arising in between Board meetings, including the taking of required preliminary actions; and Approving transactions and investments as delegated by the Board of Directors.	**Daniel Vasella**[1] Ulrich Lehner Hans-Joerg Rudloff	9 9 9		Charter of the Chairman's Committee http://www.novartis.com/corporate-governance
THE AUDIT AND COMPLIANCE COMMITTEE			**6/3**	
The primary responsibilities of this committee include: Overseeing the internal auditors; Supervising the external auditors and selecting and nominating the external auditors for election by the meeting of the shareholders; Overseeing the accounting policies, financial controls and compliance with accounting and internal control standards; Approving quarterly financial statements and financial results releases; Overseeing internal control and compliance processes and procedures; and Overseeing compliance with laws and external and internal regulations. The Audit and Compliance Committee has the authority to retain external consultants and other advisors.	Srikant M. Datar[1],[2] Ulrich Lehner[2] Hans-Joerg Rudloff[2] Andreas von Planta Wendelin Wiedeking	6 6 5 6 6		Charter of the Audit and Compliance Committee http://www.novartis.com/corporate-governance

(1) Chair

(2) Audit Committee Financial Expert as defined by the US Securities and Exchange Commission (SEC).

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Responsibilities	Membership comprises	Number of meetings held in 2010/ approximate average duration of each meeting Attendance	Link
THE RISK COMMITTEE		**4/2**	
The primary responsibilities of this committee include: Ensuring that Novartis has implemented an appropriate and effective risk management system and process; Ensuring that all necessary steps are taken to foster a culture of risk-adjusted decision making without constraining reasonable risk-taking and innovation; Approving guidelines and reviewing policies and processes; and Reviewing with management, internal auditors and external auditors the identification, prioritization and management of the risks, the accountabilities and roles of the functions involved with risk management, the risk portfolio and the related actions implemented by management.	**Andreas von Planta**(1) Srikant M. Datar Ulrich Lehner Hans-Joerg Rudloff Wendelin Wiedeking	4 4 4 2 4	Charter of the Risk Committee http://www.novartis.com/ corporate-governance
THE COMPENSATION COMMITTEE		**4/2**	
The primary responsibilities of this committee include: Designing, reviewing and recommending to the Board compensation policies and programs; Advising the Board on the compensation of the Board members; Approving the employment terms of key executives; Deciding on the variable compensation of the Chief Executive Officer, the members of the Executive Committee and other key executives for the past year; and Deciding on the base salary and the total target compensation of the Chief Executive Officer, the members of the Executive Committee and other key executives for the coming year. The Compensation Committee has the authority to retain external consultants and other advisors.	**Marjorie M.T. Yang**(1) William Brody Srikant Datar Ulrich Lehner Hans-Joerg Rudloff	4 4 4 4 4	Charter of the Compensation Committee http://www.novartis.com/ corporate-governance

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Responsibilities	Membership comprises	Number of meetings held in 2010/ approximate average duration of each meeting Attendance	Link
THE CORPORATE GOVERNANCE AND NOMINATION COMMITTEE		**3/2**	
The primary responsibilities of this committee include: Designing, reviewing and recommending to the Board corporate governance principles; Reviewing on a regular basis the Articles of Incorporation with a view to reinforcing shareholder rights; Reviewing on a regular basis the composition and size of the Board and its committees; Reviewing annually the independence status of each Board member; Reviewing directorships and agreements of board members for conflicts of interest and dealing with conflicts of interest; Identifying candidates for election as Board member; Assessing existing Board members and recommending to the Board whether they should stand for re-election; Preparing and reviewing the succession plan for the CEO; and Developing and reviewing an orientation program for new Board members and an ongoing education plan for existing Board members.	**Ulrich Lehner**(1) Ann Fudge Pierre Landolt Andreas von Planta Rolf M. Zinkernagel	3 3 3 3 3	Charter of the Corporate Governance and Nomination Committee http://www.novartis.com/corporate-governance

The Functioning of the Board of Directors

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

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

The Chairman

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

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Meetings of the Board of Directors

The Board of Directors has meetings with the members of the Executive Committee, private meetings of the Board of Directors and meetings of the independent Board members.

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

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

In 2010, there were nine meetings of the Board of Directors and three meetings of the independent Board members.

Independence of Board Members

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

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

In its meeting on December 15, 2010, the Board of Directors determined that all of its members, except for Dr. Vasella and Alexandre F. Jetzer-Chung, were independent.

Dr. Vasella, the Chairman, was until January 31, 2010 also the Chief Executive Officer. Dr. Jetzer-Chung acts for Novartis under a consultancy agreement to support various government relations activities of Novartis.

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

Relationship of Non-Executive Board Members with Novartis

With the exception of Dr. Vasella none of the Board members is or was a member of the management of Novartis AG or of any other Novartis Group company in the three financial years preceding 2010.

There are no significant business relationships of any Board member with Novartis AG or with any other Novartis Group company except for Mr. Jetzer-Chung, who acts for Novartis under a consultancy agreement. The contract with Mr. Jetzer-Chung does not provide for any severance payments or benefits upon termination.

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Information and Control Systems of the Board of Directors vis-à-vis Management

The Board of Directors

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

The Board of Directors obtains the information required to perform its duties through several means:

The Chief Executive Officer informs the Board regularly about current developments;

The minutes of Executive Committee meetings are made available to the Board members;

Meetings or teleconferences are held as required between Board members and the Chief Executive Officer;

The Board of Directors regularly meets with all members of the Executive Committee;

The Board of Directors is updated in detail by each Division Head on a quarterly basis;

By invitation, other members of management are invited to attend Board meetings to report on areas of the business within their responsibility; and

Board members are entitled to request information from members of the Executive Committee or any other Novartis associate, and may also visit any Novartis site.

Board Committees

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

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

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

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

meetings.

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Internal Audit

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

Risk Management

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

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

OUR MANAGEMENT

Composition of the Executive Committee

Composition of the Executive Committee

The Executive Committee is headed by the Chief Executive Officer. The members of the Executive Committee are appointed by the Board of Directors. The Chief Executive Officer may appoint or remove non-voting Permanent Attendees to attend the meetings of the Executive Committee. As of December 31, 2010, there were no Permanent Attendees attending meetings of the Executive Committee.

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

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

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Role and Functioning of the Executive Committee

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

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

The Chief Executive Officer

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

Contracts with Members of the Executive Committee

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

THE INDEPENDENT EXTERNAL AUDITORS

Duration of the Mandate and Terms of Office

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