

NOVO NORDISK A S
Form 6-K
February 11, 2008

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER

Pursuant to Rule 13a-16 or 15d-16
of the Securities Exchange Act of 1934

FEBRUARY 11, 2008

NOVO NORDISK A/S

(Exact name of Registrant as specified in its charter)

**Novo Allé
DK- 2880, Bagsvaerd
Denmark**

(Address of principal executive offices)

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

Form 20-F Form 40-F

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

Yes No

If Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g-32(b):82-_____

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[Back to Contents](#)**Performance highlights 2007**

		2007	2006	Change
Financial performance				
Sales total	DKK million	41,831	38,743	8.0%
Diabetes care	DKK million	30,478	27,866	9.4%
Of which modern insulins	DKK million	14,008	10,825	29.4%
Biopharmaceuticals	DKK million	11,353	10,877	4.4%
Gross profit	DKK million	32,038	29,158	9.9%
Gross margin	%	76.6	75.3	
Sales and distribution costs	% of sales	29.6	30.0	
Research and development costs	% of sales	20.4	16.3	
Research and development costs excl AERx [®] *)	% of sales	17.2	16.3	
Administration expenses	% of sales	6.0	6.2	
Operating profit	DKK million	8,942	9,119	(1.9%)
Operating profit excl AERx [®] *)	DKK million	10,267	9,119	12.6%
Net profit	DKK million	8,522	6,452	32.1%
Effective tax rate	%	22.3	29.6	
Capital expenditure	DKK million	2,268	2,787	(18.6%)
Free cash flow	DKK million	9,012	4,707	91.5%

Long-term financial targets

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Operating profit growth	%	(1.9)	12.7
Operating profit growth excl AERx [®] *)	%	12.6	12.7
Operating margin	%	21.4	23.5
Operating margin excl AERx [®] *)	%	24.5	23.5
Return on invested capital (ROIC)	%	27.2	25.8
Cash to earnings	%	105.7	73.0
Cash to earnings excl AERx [®] *)	%	94.2	73.0

Non-financial performance

Employees	FTE	25,516	23,172	10%
Engaging culture (employee engagement)	Scale 1-5	4.1	4.0	
Employee turnover	%	11.6	10.0	
Employment impact	Number of jobs	81,600	82,700	(1%)
CO ₂ emissions	1,000 tons	236	229	3%
Water consumption	1,000m ³	3,231	2,995	8%
Recycling of waste	%	38	35	
New patent families (first filing)	Number	116	149	(22%)

Share performance

Dividend per share (proposed) **)	DKK	4.50	3.50	28.6%
Closing share price (B shares) **)	DKK	335	236	41.9%
Market capitalisation (B shares) ***)	DKK billion	172	124	38.7%

*) Excluding non-recurring costs related to discontinuation of the development of the AERx[®] inhaled insulin system.

**) Novo Nordisk B shares were split on 3 December 2007 and ADRs were split on 17 December 2007.

***) Novo Nordisk B shares (excluding treasury shares).

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See more financial and non-financial highlights on pp 52 53.

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Reader's guide

Novo Nordisk's ambition is to defeat diabetes. This report illustrates how our commitment to this goal shapes our work every day across the globe.

Welcome to Novo Nordisk's *Annual Report 2007* – a presentation of the company's performance during the year, our achievements and our challenges. It comprises two main elements: the management report (pp 2–50) and the consolidated financial and non-financial statements (pp 51–115).

The management report describes how we do business and explains how we will continue to create long-term value for shareholders and for other stakeholders.

The section **Welcome to Novo Nordisk** offers a quick introduction to the business and a letter from the chairman of the Board and the president and chief executive officer.

The section **Business results** presents the company's strategy, opportunities and key risks, followed by an overview of performance in 2007, with highlights, progress, comparative data and commentary. The pipeline overview and progress illustrates development projects aimed to secure Novo Nordisk's future growth.

The section **Business environment** elaborates on Novo Nordisk's key challenges as a global health-care company. It puts performance into context, with insights into how Novo Nordisk responds to an increasingly competitive environment and to the business implications of a globalising world. In the articles, we present a review of activities, strategies, ambitions and opportunities in light of the past year and looking ahead.

A year in the life of Novo Nordisk

Therapeutic proteins take R&D lead

15 January: Novo Nordisk discontinues R&D within small molecules and focuses research and development on therapeutic proteins. See p 8.

NovoSeven® results on ICH

26 February: Phase 3 stroke trial shows that NovoSeven® reduces bleeding in the brain, but does not improve long-term clinical outcomes. See p 39.

US hiring blitz

The US diabetes sales force is expanded. In January

In our selection of themes, we have chosen to focus on presenting the drivers that will enable Novo Nordisk to pursue our vision and achieve our strategic objectives: our approach to doing business, our people and the resources we put into supporting each of the two business segments – diabetes care and biopharmaceuticals.

The sections **Diabetes care** and **Biopharmaceuticals** provide an update of the past year's achievements in each business segment and initiatives to drive continued growth.

The section **Shareholder information** contains a description of Novo Nordisk's approach to corporate governance and remuneration policy. It also provides profiles of board members and Executive Management as well as information on the Novo Nordisk share.

The consolidated financial and non-financial statements

give a detailed account of the year's performance with comparative data. The financial statements of the parent company are included on pp 105–112.

References to studies and reports are provided on the inside back flap.

To learn more, or to help us turn our vision into reality, please get in touch.

Funding the future in China

5 March: Novo Nordisk and the Chinese Academy of Sciences establish research foundation in China. Novo Nordisk to provide 2 million US dollars for research into diabetes and biopharmaceuticals. See p 36.

Clinton calls for change

13 March: Former US President Bill Clinton is

Expanded Brazil facility opens

26 April: Novo Nordisk

2007, staffing and planning efforts begin, resulting in over 700 new people being hired and fully trained by 4 June 2007. See p 34.

keynote speaker at the Global Changing Diabetes Leadership Forum in New York, organised by Novo Nordisk. See p 27.

inaugurates Latin America's largest insulin plant in Montes Claros, Brazil. Danish Prime Minister Anders Fogh Rasmussen attends. See p 35.

Gore visits Bagsværd

On the same day, Nobel Laureate and former US Vice President Al Gore visits Novo Nordisk in Bagsværd, Denmark, to talk about the climate change challenge. See p 22.

Most employees outside Denmark

April: The number of employees outside Denmark exceeds the number of employees in Denmark a total of 25,194 people work at Novo Nordisk, 12,579 in Denmark, 12,615 in other countries.

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Japanese design captures the spirit of unite for diabetes .

On 14 November blue circles were formed around the world to mark the first UN-observed World Diabetes Day.

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Landmark renewable energy alliance

1 May: Novo Nordisk and the Danish energy company DONG Energy sign a partnership agreement. An increasing part of Novo Nordisk's future electricity consumption in Denmark will be supplied by wind turbines from 2009. See p 23.

Board of Directors visits China

Novo Nordisk's Board of Directors and Executive Management hold off-site board meeting in China. They visit the company's R&D centre in Beijing, the Chinese Academy of Sciences and CEIBS business school as well as major hospitals and distributors. See p 36.

Clinical trials and bioethics websites

2 July: Novo Nordisk increases transparency of clinical trials and bioethics through the launch of two new websites. See p 24.

New HRT product launched

5 May: Novo Nordisk celebrates its launch of Activella® 0.5mg/0.1mg at the ACOG Annual Clinical Meeting in San Diego, California. The new lower-dose product extends the company's HRT portfolio which already includes Activella® 1.0 mg/ 0.5 mg. See p 40.

New pilot plant in Denmark

12 June: A new pilot plant for the development and production of new biopharmaceuticals based on proteins cultured in mammalian cells is inaugurated in Hillerød, Denmark. See p 41.

US insulin filling capacity doubles

21 June: Employees at site Clayton, US, celebrate an expansion of production facilities that will double the company's insulin filling capacity in the US. See p 34.

Buoyant first-half sales

3 August: Novo Nordisk's interim report for the first six months of 2007 reveals a 14% rise in total sales measured in local currencies (up 9% in Danish kroner). Of all product groups, modern insulins lead the way by increasing 37% (up 31% in Danish kroner). See p 11.

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Professor Chen Zu of the Chinese Academy of Sciences and Mads Krogsgaard Thomsen, Novo Nordisk chief science officer.

Monica Priore, diagnosed with diabetes when she was five, recently swam across the Strait of Messina in Italy

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Focus on childhood diabetes

18 September: Novo Nordisk and the International Diabetes Federation (IDF) launch the Diabetes Youth Charter, an expert review into existing data and global trends in the area of childhood diabetes. It highlights actions to improve the prevention and care of childhood diabetes. See p

Anniversary milestones

5 November: The day marks the 75th anniversary of the Steno Diabetes Center and the 50th anniversary of the Hagedorn Research Institute. See p 31.

Changing Diabetes® Barometer

7 November: Novo Nordisk presents the Changing Diabetes® Barometer, a tool

Stock split

3 December: To accommodate appreciation of the share price, Novo Nordisk s B shares are split 2:1 on the OMX Nordic Exchange Copenhagen and the London Stock Exchange. Novo Nordisk s ADRs listed on the New York Stock Exchange are similarly split on 17 December. See p 49.

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for the diabetes community to track national diabetes developments. See p 27.

Sustainability leader

24 September: Novo Nordisk ranks as best-in-class in healthcare one of 18 global supersectors in Dow Jones Sustainability Indexes, the world's leading indexes for sustainability-driven investment portfolios. See pp 7 and 89-99.

Biking for a cure in Death Valley

20 October: 270 cyclists including 25 from Novo Nordisk join the 10th Ride to Cure Diabetes in Death Valley, California. The 170-kilometre ride is a fundraising event organised by the Juvenile Diabetes Research Foundation. See p 31.

Levemir® approved in Japan

22 October: Novo Nordisk receives approval for Levemir® in Japan, enabling the launch in December. See p 34.

First UN-observed World Diabetes Day

14 November: The first ever UN-observed World Diabetes Day is celebrated. The day is marked by Novo Nordisk together with the International Diabetes Federation and its partners with activities all over the world. See p 26.

Liraglutide trial results

11 December: Novo Nordisk announces clinical results from a one-year mono-therapy study investigating liraglutide a once-daily human GLP-1 analogue for the treatment of type 2 diabetes. This study, the last of five phase 3 studies needed for regulatory filing, confirms the effect of liraglutide on blood glucose control and body weight. See p 32.

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united to change diabetes

Reaching across the globe, Novo Nordisk employees organised human blue circles, gathering more than a quarter of a million people to mark the first UN-observed World Diabetes Day on 14 November 2007.

It was a truly magnificent moment and one we are proud to have been part of. Never before have the landmarks of the world been so spectacularly lit up, and never before have so many people been engaged in advocacy to protect current and future generations against one of the biggest public health threats that mankind has ever faced.

The power of the possible

To defeat diabetes that is our aspiration and our business.

At Novo Nordisk we believe in the power of the possible. Our vision is one of civilisation based on sustainability, partnership and respect for the individual. Sustainability is a powerful, unifying force. We believe it is possible to be commercially astute and socially aware. To accelerate growth and minimise environmental impacts. To earn competitive returns and contribute to economic prosperity for society. These are the cornerstones of the Triple Bottom Line principle upon which we build our business. These are the messages we convey when we call upon governments to make the frameworks that enable us and our partners to contribute to creating wealth for the benefit of all.

Results

For Novo Nordisk, the year 2007 was yet another year with remarkable progress. Our financial results and the growth of our business were achieved despite an increasingly competitive environment and adverse currency exchange rates. This is underpinned by a solid track record on measures of economic, environmental and social impact. This was also rewarded: throughout the year, our shareholders have seen a significant appreciation of their investment in our company.

In this report we highlight the assets that will help us sustain and build leadership in the business areas we focus on. Innovation of new or improved therapies is the foundation for the future of the pharmaceutical industry. In 2007, we invested more than ever in research and development, and we saw progress in a number of areas which are crucial to the future of our company. Throughout the world we have increased our presence and thereby our share of voice in an

and we must strengthen our global presence to stay competitive and expand the market for our products and services. Today, the number of Novo Nordisk employees outside Denmark exceeds that of our Danish organisation.

The expansion of our global supply chain continued to accelerate. In 2007, with the largest investment of any pharmaceutical company in Latin America, we inaugurated our insulin filling plant in Montes Claros, Brazil. We also doubled the insulin filling capacity of our manufacturing facility in Clayton, North Carolina, to meet the growing demand for our products in the US.

A significant expansion of our US sales and marketing organisation was completed in the first half of the year, aimed at supporting the continued roll-out of Levemir® and the rest of our portfolio of modern insulins.

In China we entered into a long-term strategic collaboration with the Chinese Academy of Sciences, which significantly expands our network of contacts with far-reaching implications for our research and development activities there.

Sourcing of talent and of services are key engines of globalisation. In addition to the traditional internationalisation of research and development as well as manufacturing we are now also seeing encouraging results from sourcing services.

Innovation

Driving organisational development and optimisation of cross-organisational interfaces is critical to ensuring the successful execution of global clinical trial programmes such as the suite of phase 3 studies of liraglutide, Novo Nordisk's furthest advanced new product candidate in the diabetes care business. The successful completion of the studies gives us reason to believe that this new class of diabetes therapy represents a potential, valuable treatment option for people with type 2 diabetes, and perhaps even prevention if applied for obesity-related health risks. This would represent a significant advance for diabetes care and the future of Novo Nordisk.

We saw unprecedented progress in our pipeline in 2007: next-generation modern insulin and NovoSeven® analogues, new indications for Norditropin®, lower-dose hormone replacement therapies as well as our portfolio of early-stage candidates for treatment of inflammation. Some of this progress can be ascribed to the fact that we have strengthened the project-centric organisation in our clinical development. We have improved cross-project alignment,

increasingly competitive business environment and with that we have achieved greater acceptance of our products. Our manufacturing operations continue to improve productivity, allowing us to invest more in sales and marketing for the short term and in research and development for the long term. And, most importantly, people at Novo Nordisk demonstrate that we've got what it takes to win: accountability, ambition, responsibility, engagement, openness and readiness for change.

Three themes have been the key drivers of success and will remain on our agenda: globalisation, innovation and leadership.

Globalisation

Demands for proper healthcare are on the rise throughout the world,

systems of performance management, compensation packages and talent development programmes for all groups of employees.

Regrettably, Novo Nordisk also experienced some setbacks in research and development in 2007.

We began the year with a great disappointment when our final studies investigating rFVIIa for the treatment of intracerebral haemorrhage failed to show sufficient benefits for the patients. This was despite the fact that the trials were conducted at impressive speed, and with the highest level of professionalism. A hope for stroke patients faded away.

We also decided to stop our research and development efforts to develop small-molecule oral therapies for type 2 diabetes after many years of concerted efforts.

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And finally, in January 2008, we decided to discontinue the development of the AERx[®] inhaled insulin system and focus our research and development on a new generation of systems for administering long-acting insulin and GLP-1 via inhalation.

Discontinuing a research programme does not mean giving up hope that improved product offerings can be achieved. But if ambitions are high you have to accept that not all objectives will be met – that is how it is when trying to accomplish difficult tasks. And we will continue to invest in pursuing every viable route to offer improved benefits for the people whose healthcare needs we serve.

Leadership

With aspiration of leadership follows the obligation to speak out on behalf of your constituencies and seek influence on the global agenda. In the spring, Novo Nordisk hosted the first Global Changing Diabetes Leadership Forum in New York. This event kicked off a range of activities, and we are pleased to see that our initiative has resonated well with health policy-makers and others with the power to influence the agenda towards a more sustainable future.

In parallel, we advanced our initiatives to face up to the climate change challenge and pursue our ambitious strategy to reduce the company's CO₂ emissions over a 10-year period. Here, a milestone was a unique partnership with our energy supplier in Denmark, where 85% of our CO₂ emissions occur, to convert energy savings to increased

supplies of renewable energy. It is our ambition that this too may serve as inspiration for others. We have been active advocates on the international scene, sharing our experience and supporting coalitions urging immediate and concerted action.

2007 was also the fifth anniversary of the World Diabetes Foundation, an initiative founded and funded by Novo Nordisk to improve access to and knowledge about diabetes care in the developing countries. Already now the Foundation is supporting 138 projects across all continents with encouraging results. We are humbled by its potential impact, and are hence seeking extension of funding from our shareholders for a new, 10-year period.

Challenges

At the beginning of 2008, we can confidently say that Novo Nordisk is well-positioned to meet the challenges posed by our competitive environment and societal developments. Diabetes care is one of the segments of the pharmaceutical industry with the highest expected future growth rates. This makes it attractive to continue to invest in staying ahead in this market.

It is critical that Novo Nordisk continues to deliver on promises and that we are successful in our must-win battles: First, to maintain leadership in diabetes care by expanding the use of our modern insulins, ensuring leadership within GLP-1 and progressing the next generation of modern insulins through development. Second, expanding our offerings in biopharmaceuticals by developing the next-generation successors to NovoSeven[®] and creating possibilities for change in treating haemophilia, growth deficiency, hormone replacement and inflammation.

Thanks

We are set on one goal: improving value for patients. Looking back at our achievements in 2007, we believe that we are on the right track. We thank our customers, shareholders and partners for their loyalty and support throughout the year. We also believe that our customers, shareholders and partners share with us a great thanks to our employees for their efforts, their creativity and their dedication that makes Novo Nordisk a very special company.

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Welcome to Novo Nordisk | Novo Nordisk at a glance

novo nordisk at a glance

At 73% of sales, diabetes care is the main growth driver for Novo Nordisk's business. Solid growth and efficient production make it possible to invest in building long-term market presence.

Biopharmaceuticals, the company's other main business area, accounts for 27% of overall sales. In this area, which includes NovoSeven®, human growth hormone and HRT products, Novo Nordisk is also exploring potential new therapies in areas where significant medical needs exist.

North America

Sales: 33% of total sales.

Insulin volume share: 43% of the total market.

Modern insulin volume share: 31% of the segment.

People with diabetes: 21 million people living in the US and Canada are estimated to have diabetes.

Performance: Growth is primarily driven by the complete portfolio of modern insulins, NovoLog®, NovoLog® Mix 70/30 and Levemir®. Novo Nordisk is the leader in the US insulin market.

Capacity-building: 90,000 healthcare professionals have been trained or educated through Novo Nordisk's National Changing Diabetes Program®.

International Operations

Sales: 17% of total sales.

Insulin volume share: 57% of the total market.

Modern insulin volume share: 54% of the segment.

People with diabetes: 183 million people living in countries within International Operations are estimated to have diabetes.

Performance: Growth is driven by modern insulins as well as human insulin. China is a key growth driver, contributing around 50% of the growth in insulin sales.

Capacity-building: 134,000 healthcare professionals have been trained or educated through Novo Nordisk's National Changing Diabetes® programmes.

Europe

Sales: 39% of total sales.

Insulin volume share: 57% of the total market.

Modern insulin volume share: 50% of the segment.

People with diabetes: 34 million people living in Europe are estimated to have diabetes.

Performance: Growth is primarily driven by the complete portfolio of modern insulins, NovoRapid®, NovoMix® 30 and Levemir®. Novo Nordisk continues to consolidate its leadership position in the European insulin market.

Capacity-building: 54,000 healthcare professionals have been trained or educated through Novo Nordisk's National Changing Diabetes® programmes.

Market share data is based on IMS MAT November volume data. IMS World now includes certain IO countries.

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Japan & Oceania

Sales: 11% of total sales.

Insulin volume share: 73% of the total market.

Modern insulin volume share: 62% of the segment.

People with diabetes: 8 million people living in Japan are estimated to have diabetes.

Performance: Growth is primarily driven by the modern insulins NovoRapid® and NovoRapid Mix® 30. With the launch of Levemir® in Japan in December 2007, Novo Nordisk continues to consolidate its strong leadership position in the Japanese insulin market.

Capacity-building: 58,000 healthcare professionals have been trained or educated through Novo Nordisk's National Changing Diabetes® programmes.

the world of novo nordisk

Novo Nordisk is a focused healthcare company headquartered in Denmark. With market presence in 179 countries, and R&D and production facilities spanning five continents, the company's global reach is expanding.

Novo Nordisk is a world leader in diabetes care.

Key market figures for the diabetes care business in each of the four regions are provided here. See more on pp 11 and 52.

In its other business segment, biopharmaceuticals, Novo Nordisk has a leading position within the therapeutic areas of haemostasis management, growth hormone therapy and hormone replacement therapy. Sales in the biopharmaceuticals business are reported globally and by therapy area. See pp 11-12 and 52.

Novo Nordisk has 26,008 employees in 80 countries; 12,689 are based in Denmark and 13,319 abroad. Of these, 4,695 work in R&D, 7,900 in production, 8,368 in sales and distribution and 5,045 in administration. The largest production sites are located in Denmark. The company has invested in establishing a seamless global supply chain and significantly expanded production facilities in all regions, particularly the growth markets of the US and China.

Ownership structure

Novo A/S, an unlisted Danish public limited liability company wholly-owned by the Novo Nordisk Foundation, holds 25.5% of Novo Nordisk's total share capital and 71% of the total number of votes. The Novo Nordisk Foundation is a self-governing and profit-making foundation, whose purpose is to provide a stable basis for the commercial and research activities conducted by the companies within the Novo Group and to support scientific, humanitarian and social purposes.

Novo Nordisk's B shares are listed on the stock exchanges in Copenhagen and London. Its ADRs are listed on the New York Stock Exchange under the symbol **NVO**.

History

Novo Nordisk has its origins in two Danish companies founded in the 1920s: Nordisk Insulinlaboratorium and Novo Terapeutisk Laboratorium. These two companies, which merged in 1989 to become Novo Nordisk, independently pioneered several key breakthroughs in diabetes care during the last century. Both companies took a broader approach to diabetes: in 1932 Nordisk Insulinlaboratorium founded the Steno Memorial Hospital and six years later Novo Terapeutisk Laboratorium established the Hvidøre Diabetes Sanatorium. This resolve to treat the person and not just the symptoms of the disease is a forerunner of Novo Nordisk's modern-day

commitment to sustainable development and balanced growth.

Scientific breakthroughs which characterised both of the companies during their history as competitors continued after the merger, and Novo Nordisk's ongoing commitment to innovation is still evidenced today by its emphasis on research and development.

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Welcome to Novo Nordisk | The Novo Nordisk way

leading the novo nordisk way

The Novo Nordisk Way of Management forms the values-based governance framework for the company. From vision to policies, it describes how people at Novo Nordisk put values into action and defines the principles for how the company does business.

The Novo Nordisk Way of Management consists of three elements: the Vision, the Charter and global company policies.

The **Vision** sets out the direction for Novo Nordisk. It expresses what Novo Nordisk is striving for, how the company works and how it is guided by its values in its endeavours to find the right balance between commercial interests and acting as a responsible business.

The **Charter** describes the company's values, commitments, fundamentals and follow-up methods. The values underpin the commitments to the Triple Bottom Line and sustainable development. The fundamentals are a set of 11 management principles to ensure focus on business objectives, customers, compliance, collaboration and sharing of better practices, and quality mindset. And the follow-up methods provide ongoing systematic and validated documentation of performance in all material areas of Novo Nordisk.

The global company **policies** set global standards and give operational guidelines in 13 specific areas: bioethics, business ethics, communication, environment, finance, global health, health and safety, information technology, legal, people, purchasing, quality and risk management.

The Novo Nordisk Way of Management

The **follow-up methodology** has four key components which provide assurance to stakeholders of the quality of the company's processes and performance.

Financial and non-financial audit is a systematic methodology to assess performance as accounted for in the annual reporting. Furthermore, Novo Nordisk voluntarily includes independent assurance of the company's non-financial reporting.

Facilitation is a specific follow-up method that is unique to companies in the Novo Group. It is used to provide systematic and validated documentation of the levels of compliance with the Novo Nordisk Way of Management. The global facilitator team consists of senior people with deep insight into the business and the business environment.

Organisational development is assessed through an annual **Organisational audit**, commissioned by the Board of Directors and Executive Management. This process, conducted at senior management level, includes an assessment of linking business and organisation as well as succession management.

Quality audit monitors adherence to the quality requirements, including quality management systems. It aims to ensure continuous improvements and optimal use of internal standardisation. Quality audit supplements inspections by regulatory bodies.

Commitments: the Triple Bottom Line

Novo Nordisk is committed to sustainable development and balanced growth. The principles of sustainable development – to preserve the planet while improving the quality of life for its current and future inhabitants – resonate well with the philosophy upon which the company was founded and how it does business today: constantly striving to improve performance as measured by the Triple Bottom Line principle.

In Novo Nordisk's Articles of Association it is stated as the objectives that the company strives to conduct its activities in a financially, environmentally and socially responsible way. This implies that any decision should always seek to balance three considerations: Is it economically viable? Is it socially responsible? And is it environmentally sound?

This is the Triple Bottom Line business principle, which ensures that decision-making balances financial growth with corporate responsibility, short-term gains with long-term profitability and shareholder return with other stakeholder interests.

The Triple Bottom Line is how Novo Nordisk has chosen to interpret its commitment to sustainable development. It is built into the corporate governance structures, management tools, individual performance assessments and reward schemes.

Economically viable means managing the business in a way that ensures corporate profitability and growth, and seeks to leave a positive economic footprint in the community. Environmentally sound decisions address the company's impact on the external environment as well as the bioethical implications of its activities. Socially responsible implies caring for people. For Novo Nordisk, this applies to the people who rely on the company's products and to employees. It also considers the impact of the business on society.

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Employees from Bulgaria volunteer to build a playground at a children s hospital.

Managers participate in the Novo Nordisk educational programme Lighthouse to increase their leadership skills.

Employees put energy into the promise to change diabetes.

Setting long-term targets

Sustainability is a moving target. Understanding the dynamics of society and the business environment that can enhance or impede corporate growth helps identify risks and opportunities for the company as a commercial business and as a corporate citizen. Such insights are gained via trendspotting, scenario analyses and forecasting in a 10-year perspective as part of the Strategic Planning Process (see pp 8 9).

This translates into medium- and short-term priorities and targets for the company s financial and non-financial performance. Novo Nordisk has adopted the Balanced Scorecard as the company-wide management tool for measuring progress. As part of the remuneration package, individuals are rewarded for performance that meets or exceeds

the financial and non-financial targets in the Balanced Scorecard, which comprise corporate, unit-specific and individual targets. Progress is tracked against targets in the annual accounts. Financial performance is guided by a set of four long-term targets focusing on growth, profitability, financial return and cash generation (see p 10). Non-financial performance is guided by measures for the company s impacts on the Triple Bottom Line. These include socio-economic impacts such as job creation, the ability to manage environmental impacts and optimise resource efficiency, and social impacts related to employees, patients and communities (see pp 14 and 93 94).

Guided by the Novo Nordisk Vision

The ambition to ultimately defeat diabetes is at the core of the company s vision. It is a business proposition and the main driver for Novo Nordisk s contribution to sustainable development. Good health is a driver of economic growth and a prerequisite for achieving greater

social equity. Serving unmet medical needs also motivates the aspiration to offer products and services in areas that make a difference.

This vision sets Novo Nordisk s objectives in context and inspires employees in their work. It is a beacon that keeps everyone s focus on creating long-term shareholder value and leveraging the company s unique qualities to gain competitive advantage.

Novo Nordisk believes in the value that is created by people who are engaged in what

they do. Offering an inspiring place to work attracts and retains talented people and is a key factor for long-term success in an increasingly competitive business environment.

Novo Nordisk s values are consistent with principles of good governance. Putting values into action is as manifest in employees everyday business dealings as in formal global standards and management practices.

We will be the world s leading diabetes care company

Our aspiration is to defeat diabetes by finding better methods of diabetes prevention, detection and treatment.

We will offer products and services in other areas where we can make a difference

Our research will lead to the discovery of new, innovative products, also outside diabetes.

We will achieve competitive business results

Our focus is our strength.

We will stay independent and form alliances whenever

A job here is never just a job

We are committed to being there for our customers whenever they need us.

We will be innovative and effective in

Our values are expressed in all our actions

Decency is what counts.

Every day we strive to find the right balance between compassion

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We will work actively to promote collaboration between all parties in the healthcare system in order to achieve our common goals.

We will develop and market such products ourselves whenever we can do it as well as, or better than, others.

they serve our business purpose and the cause we stand for.

everything we do.

We will attract and retain the best people by making our company a challenging place to work.

and competitiveness, the short and the long term, self and commitment to colleagues and society, work and family life.

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Business results | Strategy and risks

business strategy, opportunities and key risks

In the face of intensified competition the leadership challenge is to stay focused on pursuing long-term objectives for value creation and overcoming barriers to sustainable growth.

Novo Nordisk is a focused healthcare company. This focus underlines the company's claim to leadership in its markets. Novo Nordisk offers therapies in areas where significant unmet medical needs remain: diabetes care, haemostasis management, growth hormone deficiency and hormone replacement therapy.

Over the years, Novo Nordisk has built expertise in protein engineering and expression and protein formulation, supported by device technology for the convenient administration of medicines. Leveraging these core competences is critical to securing long-term success. In line with this strategy, Novo Nordisk has decided to discontinue R&D activities within small molecules for the oral treatment of diabetes and to refocus its activities within inhaled insulin, discontinuing clinical development of AERx[®] inhaled insulin (AERx[®] iDMS).

The dedicated focus in just two core business segments diabetes care and biopharmaceuticals is supported by a simple organisational structure of functional excellence, a common values-based business approach and global standards. This structure facilitates flexibility and agility in a dynamic and highly competitive business environment.

The corporate strategy is based on a 10-year perspective and describes how Novo Nordisk intends to translate its vision into action.

The market approach is underpinned by the Triple Bottom Line principle, which encompasses both risk mitigation and innovation. To better manage emerging risks and act on opportunities, Novo Nordisk engages with a broad range of stakeholders. The company seeks to make a positive economic, environmental and social impact through its operations, global management standards, community engagements, partnerships, technology transfers and knowledge exchange.

and biosimilar products become available. Competing under such conditions hinges on the ability to offer superior products and to effectively convey the value proposition to customers and healthcare professionals. Delay or failure of key development projects would impair Novo Nordisk's ability to successfully market current and new products. Causes of delay may include slow recruitment for clinical trials, safety or efficacy concerns, filing delay or insufficient production capacity.

Novo Nordisk seeks to maintain its lead in injectable insulins through continued market penetration of the company's modern insulins, and to build new platforms with pulmonary insulin and GLP-1, where the compound liraglutide appears to be promising.

Our core competences are in therapeutic proteins, and this is where we can make the greatest difference in driving company growth and achieving better outcomes for people whose healthcare needs we serve.

Lars Rebien Sørensen
president and chief executive officer

Barriers to success include customers' willingness and ability to pay. Ageing populations in the developed parts of the world have led to increased pressure on healthcare costs, and governments seek to cut prices and do not offer premiums for new, innovative products. This development threatens to undermine the profitability of bringing improved treatments to market. In contrast, in the developing parts of the world the challenge is to provide access to medicines and to healthcare.

Novo Nordisk has stepped up its efforts to engage payers and policy-makers in all parts of the world in understanding the magnitude of the economic implications of inaction on diabetes. These efforts include building an evidence-based argumentation for action and for the health-economic benefits of insulin treatment. The company's global programmes to offer inclusive diabetes care help alleviate the current diabetes

Diabetes care

Strategic objective: maintaining leadership Novo Nordisk offers a full portfolio of modern insulins and has a strong pipeline with a late-stage product candidate that the company hopes will meet current and future needs. The company has sufficient production capacity to scale up deliveries, and a well-tuned sales force in place globally. Moreover, significant investments in diabetes research make Novo Nordisk the largest player in this field.

This position is the foundation of Novo Nordisk's promise to change diabetes. To curb the diabetes pandemic, which is largely attributable to an escalating consumer culture, action is required on several fronts. First, to improve the quality of life for people with diabetes. Modern insulin therapy serves individuals' varying needs. Improved outcomes, which can be measured as reduction of HbA_{1c} levels, may be achieved by early initiation of insulin therapy^{1c} and timely intensification. Second, as a longer-term effort, interventions to prevent the onset of type 2 diabetes. And third, research into finding a cure for type 1 diabetes.

Growth drivers and risk factors The market for diabetes care is growing rapidly. It is also becoming increasingly competitive as new products

burden while simultaneously building long-term presence in emerging markets and paving the way for commercially viable solutions in the longer term.

Biopharmaceuticals

Strategic objective: expand the business With a solid range of therapeutic products, the strategy for biopharmaceuticals is to expand the business by pursuing new indications and exploring new potential in other areas where Novo Nordisk can make a difference.

As the primary objective, Novo Nordisk aims at expanding its leadership in haemophilia based on the company's product NovoSeven® and a number of innovative compounds that cover different blood clotting factors, including analogues of FVII, in the pipeline.

The therapy areas in the biopharmaceuticals segment predominantly address small patient groups with significant unmet medical needs. The exception here is hormone replacement therapy, where Novo Nordisk has gained market-leading positions despite a generally declining market.

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Representatives from the External Affairs network in Novo Nordisk.

Building on research and development to change diabetes.

Growth drivers and risk factors Given the nature of indications investigated and the limited number of patients for whom treatment is relevant, conducting clinical trials is cumbersome and time-consuming. At the same time, the risk of failure is great, and even when results are positive there is no guarantee of commercial viability. Still, Novo Nordisk is committed to pursuing treatment options if there is a sufficiently well-founded hypothesis that the compound could benefit patients. As with diabetes care, delay or failure of key development projects would impair Novo Nordisk's ability to successfully market current and new products.

In the new therapy area, inflammation, success is unlikely to be achieved solely through organic growth, so Novo Nordisk is actively promoting itself as an attractive partner in research and development, and is open to acquisitions that could complement the internal activities.

Facing industry challenges

The pharmaceutical industry is subject to extensive regulation, which aims to ensure patient safety, but also increases costs. The approval process for new products is generally lengthy, expensive and subject to unanticipated delays. Sustaining revenue growth therefore also depends on the timely and successful approval, introduction and marketing of new products, as well as gaining approval for existing products for new indications.

Government-imposed industry price regulations, mandatory reference prices with subsequent payment burdens to patients through higher co-payments, and mandatory substitution of biosimilar drugs adversely affect Novo Nordisk and most of the industry in general.

Protecting patent rights is material to Novo Nordisk's business. Loss of market exclusivity and the introduction of lower-cost biosimilar products result in significant loss of sales. The therapeutic proteins market is becoming increasingly attractive. Novo Nordisk has a generally low short-term exposure to patent expiration, but, like other branded products, is exposed to competition.

On a path of continued growth

In recent years, Novo Nordisk has grown at a rate that generally outperforms peers in the pharmaceutical industry.

The company is building up a global sourcing programme,

Quality is paramount in pharmaceutical production. Quality failures could jeopardise patients' well-being and would entail major reputational risks as well as risks of costly compensation payments. With an aim to mitigate this Novo Nordisk has a global quality system in place, with audits, improvement plans and management reviews.

To achieve its ambitious business objectives Novo Nordisk depends upon the ability to attract and retain skilled people in key positions across the organisation, and particularly in growth markets such as the US and China. Competition for talent among pharmaceutical and biotechnology companies is intensifying, and, as a result, Novo Nordisk has stepped up its efforts on employer branding. Innovation and high performance depend on people's engagement at work, leadership development and lifelong learning. These are the key parameters for success addressed by the Novo Nordisk people strategy and monitored through regular facilitations, organisational audits and annual surveys.

Evidence of good governance and full compliance is a precondition for maintaining the licence to operate and innovate. In a competitive environment with increasing public scrutiny and regulation, the risk of legal action due to perceived or actual failure to adhere to marketing practices is ever present. Monitoring adherence to the Novo Nordisk Way of Management, supported by the company's business ethics policy and related audits, aims to mitigate such risks.

Legal issues related to intellectual property, product liability claims or business practices are included in the overview of current legal cases on pp 87-88.

Financial risks related to currency exposure are described on p 76.

Managing risks

Novo Nordisk defines risks as events or developments which could reduce our ability to meet our overall objectives. This includes both financial and non-financial risks that could affect the company throughout its value chain: from discovery and development, through manufacturing, sales and support functions.

Integrated and systematic risk reporting is aligned with other management reporting and occurs on a quarterly basis. Through this process, risk factors and mitigations are identified and factored into the individual units' business plans. This disciplined inquiry into the context for identified risks and assessment of which objectives may be threatened enables Novo Nordisk to be more attentive to factors that help or hinder

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having made substantial investments in expanding production capacity in the US, Brazil and China. In doing so, Novo Nordisk seeks to grow its presence in strategic markets, spread risks and optimise costs and logistics. Any failure or breakdown in vital production facilities or with key suppliers could, in addition to potential physical damage or loss of life, affect the supply of products.

long-term value creation. As part of the strategic planning process, Novo Nordisk conducts an annual in-depth identification and evaluation of long-term growth opportunities.

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Market shares are based on IMS MAT
November 2007 volume data.

performance in 2007

Novo Nordisk is on a solid growth track. In 2007, the results testified to a robust sales growth in all major markets for the portfolio of modern insulins supported by productivity improvements.

Sales increased by 13% in 2007 in local currencies and by 8% in Danish kroner due to a significant negative currency development. This result is in line with the expected growth in reported sales of 6-9%, communicated in connection with the release of financial results for the third quarter of 2007. The primary growth contribution came from the robust market penetration of the company's modern insulins NovoRapid®, NovoMix® and Levemir® in all markets. Sales of modern insulins increased by 35% (29% in Danish kroner).

In Biopharmaceuticals, double-digit sales growth was sustained, with sales of NovoSeven® increasing by 10% (4% in Danish kroner), and sales of Norditropin® increasing by 11% (6% in Danish kroner). Other products – primarily the hormone replacement therapy products Activelle® and Vagifem® – also contributed to growth.

Sales growth was realised in all regions measured in local currencies, the main contributors being North America and International Operations, which provided 53% and 23% respectively of the total sales growth. Europe contributed 21% and Japan & Oceania 3% of the sales growth in 2007 measured in local currencies.

The gross margin increased to 76.6% in 2007,

lower than in 2006) was impacted by the non-recurring cost of DKK 1,325 million following the decision to discontinue the development of AERx®, the company's pulmonary insulin delivery system, communicated to the market in January 2008. This is significantly below the expectations of growth in operating profit of close to 10% as reported, communicated at the end of the third quarter of 2007. Adjusted for the non-recurring costs related to the discontinuation of AERx®, operating profit growth was 13%.

Net profit increased by 32% to DKK 8,522 million. When adjusted for the non-recurring income from the divestment earlier in the year of Dako's business activities and the non-recurring costs related to the discontinuation of AERx®, net profit increased by 25%.

Earnings per share (diluted) increased by 34% to DKK 13.39.

Four long-term targets guide the company's financial development, aimed at ensuring long-term shareholder value creation. These targets are operating profit growth, operating margin, return on invested capital and cash conversion. Progress towards achievement of all four long-term financial targets was on track in 2007, and this was underpinned by good progress on the key non-financial goals.

The operating margin for 2007 was realised at 21.4%. Excluding costs related to the discontinuation of AERx®, it was 24.5%, being very close to the long-term target of 25%.

Operating profit growth was realised at (2%). However, adjusted for the non-recurring costs

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up from 75.3% in 2006, primarily reflecting sustainable productivity improvements. The productivity improvements facilitated continued investments in research and development and also in sales and distribution. Significant progress in the research and development pipeline was achieved in 2007, most notably with the completion of the phase 3 clinical studies of liraglutide, Novo Nordisk's once-daily, human analogue of GLP-1.

Reported operating profit of DKK 8,942 million (2%

related to the discontinuation of AERx[®] and a significant negative currency impact, the underlying operating profit increased by close to 25%. The long-term target is aiming at an average annual increase of 15%. The performance reflects solid underlying sales growth as well as an improved gross margin.

The return on invested capital was 27.2%, edging

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closer to the long-term target of 30%. This was achieved through a solid growth in the underlying profit combined with a modest growth in invested capital as a result of reduced unit costs on inventory, and lower investments in tangible assets.

The cash to earnings ratio for the year was realised at 106%, compared to the long-term target of 70%. Adjusted for the non-recurring costs related to the discontinuation of AERx[®], which did not impact the cash flow in 2007, the cash to earnings ratio for 2007 was realised at 94%.

Diabetes care

Novo Nordisk retained its position as global leader, with 53% of the total insulin market and 43% of the modern insulin market, both measured by volume. The company is determined to sustain its leadership in diabetes care by leveraging the value of its full portfolio of modern insulins and delivery devices while developing new antidiabetic agents and next-generation insulins to better address future needs for effective diabetes care. See pp 26-37.

Sales performance

Sales of diabetes care products increased by 14% measured in local currencies and by 9% in Danish kroner to DKK 30,478 million compared to 2006.

Modern insulins, human insulins and insulin-related products

Sales of modern insulins, human insulins and insulin-related products increased by 14%, measured in local currencies, and by 9% in Danish kroner to DKK 28,329 million. All regions contributed to growth, measured in local currencies, with North America and International Operations delivering the highest growth rates. In 2007, sales of modern insulins increased by 35% in local currencies, and by 29% in Danish kroner to DKK 14,008 million. All regions realised solid growth rates, with North America and Europe as the primary contributors to growth. Sales of modern insulins contributed 76% of the overall growth in local currencies and now constitute

set to work on promoting the company's portfolio of modern insulins across the US.

Europe

Sales in Europe increased by 7% in local currencies and 7% measured in Danish kroner, reflecting continued progress for the portfolio of modern insulins. At the end of 2007, Novo Nordisk held 57% of the total insulin market and 50% of the modern insulin market, both measured by volume, and is capturing the main share of growth in the modern insulin market.

International Operations

Sales in the International Operations region increased by 20% in local currencies and by 14% in Danish kroner. Increases in sales of modern insulins were particularly evident in Turkey and China. In addition, sales of human insulins continue to add to overall growth in the region, driven by China. The key contributor to growth in International Operations is China, which accounted for around 50% of the region's sales growth in 2007.

Japan & Oceania

Sales in Japan & Oceania increased by 4% in local currencies but decreased by 4% measured in Danish kroner as a consequence of the depreciation of the Japanese yen versus Danish kroner during 2007. This growth in reported sales reflects sales growth for the modern insulins, NovoRapid[®] and NovoRapidMix[®] 30, both of which were increasingly sold in the leading prefilled delivery device, FlexPen[®]. In December 2007, Novo Nordisk launched Levemir[®] in Japan and is now also in Japan the only company with a full portfolio of modern insulins. Modern insulins are increasingly being sold in the leading prefilled delivery device, FlexPen[®]. At the end of 2007, Novo Nordisk held 73% of the total insulin market in Japan and 63% of the modern insulin market, both measured by volume.

Oral antidiabetic products (NovoNorm[®]/Prandin[®])

Sales of oral antidiabetic products increased by 14% in local currencies and by 8% in Danish kroner to DKK 2,149 million compared to 2006. This primarily reflected increased sales in International Operations and North America,

53% of Novo Nordisk's sales of insulins.

Sales of human insulin declined by 7% to DKK 12,572 million ((3%) in local currencies) in line with Novo Nordisk's increased focus on modern insulins and the general market trend.

mainly due to an increased market share in China and a higher average sales price in the US market.

North America

Sales in North America increased by 26% in local currencies in 2007 and by 16% in Danish kroner, reflecting a solid penetration of the modern insulins Levemir®, NovoLog® and NovoLog® Mix 70/30. Novo Nordisk continues to consolidate its leadership position in the US insulin market with 42% of the total insulin market and 30% of the modern insulin market, both measured by volume. Currently, more than 35% of Novo Nordisk's modern insulin volume is being sold in FlexPen®.

During 2007, Novo Nordisk expanded its US diabetes care sales force from around 1,200 to around 1,900 people. Following training, the enlarged team

Biopharmaceuticals

Novo Nordisk is seeking to expand its leading positions within the biopharmaceuticals therapy areas by pursuing new indications for its existing product range and by exploring new potential proteins in other areas. See pp 38-41.

Sales performance

Sales of biopharmaceutical products increased by 10% measured in local currencies and by 4% measured in Danish kroner to DKK11,353 million compared to 2006.

NovoSeven®

Sales of NovoSeven® increased by 10% in local currencies.

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Market shares are based on IMS MAT November 2007 volume data.

cies and by 4% in Danish kroner to DKK 5,865 million compared to 2006. This sales growth, driven by sales in North America, primarily reflected increased sales within the congenital bleeding disorder segments, where Novo Nordisk is the global leader. Treatment of spontaneous bleeds for congenital inhibitor patients remains the largest area of use.

Growth hormone therapy (Norditropin®)

Sales of Norditropin® (ie growth hormone in a liquid, ready-to-use formulation) increased by 11% measured in local currencies and by 6% measured in Danish kroner to DKK 3,511 million. All regions, and especially North America and Europe, contributed to growth measured in local currencies. Novo Nordisk continues to gain market share in the growth hormone market, and is the second-largest company in the market with a 23% market share measured in volume.

Other products

Sales of other products within biopharmaceuticals, which predominantly consist of hormone replacement therapy (HRT)-related products, increased by 8% in local currencies and by 2% in Danish kroner to DKK 1,977 million. This development primarily reflects continued sales progress in the US market for Vagifem®, Novo Nordisk's topical oestrogen product. The launch of Activella® low dose in the US augmented the upward trend. At the end of 2007, Novo Nordisk was the second-largest participant within the global HRT market.

Pipeline progress

See pp 16-17 for a status on the current pipeline and pp 18-19 for progress during the year, including major regulatory approvals.

management and other senior employees (around 525 in total) amounting to DKK 130 million. The comparable expense for 2006 was DKK 113 million (around 425 participants in total).

Licence fees and other operating income were DKK 321 million in 2007, positively impacted by an income in the first quarter of 2007 related to the outlicensing of an oral antidiabetic compound.

As a consequence of the non-recurring costs related to the discontinuation of AERx®, operating profit in 2007 decreased by 2% to DKK 8,942 million compared to 2006. Adjusted for the non-recurring costs related to the discontinuation of AERx®, operating profit growth was 13%.

Net financials and tax

Net financials showed a net income of DKK 2,029 million in 2007 compared to a net income of DKK 45 million in 2006.

Included in net financials is the result from associated companies with an income of DKK 1,233 million, primarily related to the non-recurring tax-exempt income of approximately DKK 1.5 billion from Novo Nordisk's divestment of its ownership of Dako's business activities as well as Novo Nordisk's share of losses in ZymoGenetics, Inc, of approximately DKK 0.3 billion. In 2006, the result from associated companies was a loss of DKK 260 million.

The foreign exchange result was an income of DKK 910 million compared to an income of DKK 141 million in 2006. This development reflects gains on foreign exchange hedging activities due to the lower value in 2007 of main currencies, in particular US dollars and Japanese yen, versus Danish kroner compared to the exchange rate levels prevailing in 2006. Foreign exchange hedging gains of DKK 691 million have been deferred for future income recognition, primarily in

Operating performance

The cost of goods sold was DKK 9,793 million in 2007, representing a gross margin of 76.6% compared to 75.3% in 2006. This improvement reflects improved production efficiency, a lower level of write-downs and impairment in 2007 compared to 2006 and higher average prices in the US. The gross margin was negatively impacted by around 0.8 percentage points due to currency developments, primarily the lower value of US dollars and Japanese yen versus Danish kroner compared to 2006.

Total non-production-related costs increased by 15% to DKK 23,417 million. The increase primarily reflects costs related to research and development as well as sales and distribution. Research and development costs increased more than sales, primarily reflecting the non-recurring costs related to the discontinuation of AERx[®] of DKK 1,325 million, which relates to write-down and impairment of tangible and intangible assets, and costs in relation to the discontinuation of clinical trials. Sales and distribution costs increased slightly more than sales, primarily reflecting the increase in the US diabetes care sales force.

In 2007, Novo Nordisk expensed costs in relation to share-based long-term incentive programmes for senior

2008.

The realised results for net financials in 2007 were slightly higher than the previously communicated expectation of a total net financial income of around DKK 1,950 million .

The effective tax rate for 2007 was 22.3%, a decrease from 29.6% in 2006. The significantly lower effective tax rate for 2007 primarily reflects a non-recurring reduction of around 3 percentage points from Novo Nordisk s divestment of its ownership of Dako s business activities as well as a non-recurring effect of close to 2 percentage points from the re-evaluation of the company s deferred tax liabilities as a consequence of the reduction in the Danish corporation tax rate to 25% introduced in 2007.

The realised effective tax rate for 2007 was in line with the previously communicated expectation of a tax rate of around 22% for the full year of 2007.

Capital expenditure and free cash flow

Net capital expenditure for property, plant and equipment for 2007 was realised at DKK 2.3 billion compared to DKK 2.8 billion for 2006. The main investment projects in 2007 were capacity for AERx[®] insulin strip manufacturing, expansion of FlexPen[®] assembly capaci-

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ty, as well as the expansion of the purification and filling capacity for insulin products. The realised capital expenditure was slightly lower than the previously communicated expectation of around DKK 2.5 billion .

Free cash flow for 2007 was DKK 9.0 billion compared to DKK 4.7 billion for 2006. Novo Nordisk's financial resources at the end of 2007 were DKK 13.6 billion and higher than the amount at the end of 2006. Included in the financial resources are unutilised committed credit facilities of approximately DKK 7.5 billion. The cash flow was higher than the previously communicated expectation of around DKK 7.5 billion and is reflecting a stronger operating performance, improvements in working capital requirements as well as a lower than anticipated level of investments in the fourth quarter of 2007.

Equity

At the end of 2007, total equity was DKK 32,182 million, equal to 67.4% of total assets, which is the same level as at the end of 2006.

Proposed dividend

At the Annual General Meeting on 12 March 2008, the Board of Directors will propose a 29% increase in dividend to DKK 4.50 per share of DKK 1. This corresponds to a pay-out ratio of 34.9%, when adjusted for the non-recurring costs related to the discontinuation of AERx[®] and the non-recurring income from the divestment of Dako's business activities, and compares to a pay-out ratio of 34.4% for the financial year 2006. No dividend will be paid on the company's holding of treasury B shares.

Share repurchase programme

During 2007, Novo Nordisk repurchased 15,537,012 B shares of DKK 1 each at an average price of DKK 311 per share, equal to a cash value of DKK 4.8 billion. During 2006, Novo Nordisk repurchased B shares equal to a cash value of DKK 3 billion. The Board of Directors has approved an increase of DKK 6.5 billion in the ongoing DKK 10 billion share repurchase programme, bringing the total value of the share repurchase programme to DKK 16.5 billion. The programme is now expected to be finalised before the end of 2009 as compared to the previously communicated completion time before the end of 2008 .

share capital will amount to DKK 634,000,000 divided into an A share capital of DKK 107,487,200 and a B share capital of DKK 526,512,800.

Legal issues

Novo Nordisk is party to a number of legal cases. See an overview of current legal issues and information on contingencies for pending litigation on pp 87-88.

Long-term incentive programmes

Novo Nordisk's remuneration policy aims to attract, retain and motivate members of the Board of Directors and Executive Management of Novo Nordisk. See pp 44-45. Novo Nordisk will present for approval at the Annual General Meeting in 2008 its guidelines for incentive-based remuneration for the Board of Directors and Executive Management of Novo Nordisk.

Long-term share-based incentive programme for senior management

As of 2004, members of Novo Nordisk's Executive Management (currently five) and the other members of the Senior Management Board (currently 22) participate in a performance-based incentive programme where a proportion of the calculated shareholder value creation is allocated to a joint pool for the participants. See pp 44-45.

For 2004, 252,688 B shares were allocated to the joint pool and the market value of the scheme was expensed in 2004. The number of shares in the 2004 joint pool has not been reduced as the financial performance in the subsequent years (2005-2007) reached specified threshold levels. Accordingly, the full number of shares was transferred to 22 current and former members of senior management immediately after the announcement of the full-year 2007 financial results on 31 January 2008. See pp 81-82.

For 2007 and based on an assessment of the economic value generated in 2007 as well as the performance of the R&D portfolio and key sustainability projects, the Board of Directors approved on 30 January 2008 the establishment of a joint pool for the financial year of 2007 by allocating a total of 166,445 Novo Nordisk B shares, corresponding to a cash value of DKK 43 million. This allocation amounts to 6.5 months of fixed base salary on average per participant. This amount was expensed in 2007.

Holding of treasury shares and reduction of share capital

On 30 January 2008, Novo Nordisk A/S and its wholly-owned affiliates owned 25,815,130 of DKK 1 each of its own B shares, corresponding to 4% of the total share capital.

In order to maintain capital structure flexibility, the Board of Directors will also propose a reduction in the B share capital from DKK 539,472,800 to DKK 526,512,800 by cancelling 12,960,000 B shares of DKK 1 from the company's holding of treasury B shares at a nominal value of DKK 12,960,000, equal to 2% of the total share capital. After implementation of the share capital reduction, the company's

As the long-term share-based incentive programme is evaluated by the Board of Directors to have worked successfully in 2007, it is planned to continue in 2008 with an unchanged structure. Novo Nordisk has, however, decided to make this decision subject to the formal approval by the Annual General Meeting in March 2008 of the guidelines for incentive-based remuneration for the Board of Directors and Executive Management of Novo Nordisk.

Long-term share-based incentive programme for vice presidents

As of 2007, around 500 key employees below top level management also participate in a share-based pro-

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gramme, based on similar performance criteria as the programmes for senior management. The pool will operate with a maximum contribution per participant equal to four months' fixed base salary. The shares in the pool are also locked up for a three-year period before they potentially may be transferred to the participants.

On 30 January 2008, the Board of Directors approved the establishment of a pool for 2007 by allocating a total of 527,665 Novo Nordisk B shares, corresponding to a cash value of DKK 135 million. This was based on an assessment of the economic value generated in 2007 as well as the performance of the R&D portfolio and key sustainability projects. This allocation amounts to 3.25 months of fixed base salary on average per participant. This amount will be recognised over four years.

Non-financial performance

In 2007, Novo Nordisk continued to perform well in terms of managing direct and indirect economic, environmental and social impacts in areas of strategic importance. The Triple Bottom Line approach aims to deliver long-term value to the business and contribute to global society. See p 53 for an overview of non-financial measures.

Economics

Novo Nordisk created 2,344 new positions worldwide and had 25,516 full-time positions, measured as full-time equivalents (FTE) at the end of the year. This is an increase of 10% on 2006 and reflects increased activities in all business areas. Via the multiplier effect, the increase translates into 56,100 indirect jobs in the supply chain worldwide.

In 2007, the number of employees outside Denmark exceeded the number of employees in Denmark. This is reflected in the distribution of remuneration between geographical areas.

Environment

In 2007, the energy-related emissions of CO₂ from Novo Nordisk's global operations increased by 3%. The total energy consumption also increased by 3%. Since 2005, the company has

comparison to sales growth there is a continued positive development from 2003 to 2007.

Compliance with environmental regulation is a high priority, and in 2007 the results of preventive measures were clear: the number of breaches of regulatory limit values decreased by 82% from 123 in 2006 to 22 in 2007. In the same period, the number of accidental releases decreased by 22% to a total of 105.

During 2007, a total of 14 suppliers were audited on their environmental and social performance. As a follow-up on the revised responsible sourcing programme, nine internal trainings on the new social and environmental implementation procedure were conducted with the participation of a total of 168 employees responsible for procurement from all lines of business.

Social

By the end of 2007, Novo Nordisk employed 26,008 persons (full-time and part-time positions) an increase of 10% compared to 2006.

The level of engaging culture (employee engagement) is measured by the average answers of 10 equally weighted questions in the annual survey, eVoice. In 2007, the consolidated score (on a scale of 1-5) was as high as 4.1, increasing by 0.1 from 2006. In 2007, the focus on the facilitations and follow-up on resulting action points was maintained. In 2007, 99% of all action points arising from facilitations were closed.

In 2007, the annual spending on training, measured as average spend per employee, increased by 16%, reflecting the company's strategic priority on talent and leadership development, and on lifelong learning offered to all employees. Moreover, the fact that the company took on board some 4,200 new employees during the year has required that additional resources be spent on induction training.

Changing Diabetes[®], Novo Nordisk's global campaign to improve prevention, detection and care, effectively put diabetes on the public and political agendas.

On the first UN-observed World Diabetes Day,

implemented energy-saving projects at all production sites, which have resulted in an estimated 12,000 ton reduction in total CO₂ emissions. Comparing the CO₂ emissions to sales shows a continued positive development from 2003 to 2007. Assessments of performance against the company's ambitious long-term target to reduce its CO₂ emission by 10% over a 10-year period as part of the WWF Climate Savers Programme, indicate that performance is on track.

The Eco Intensity Ratios (EIR) showed improved performance in both business areas, and for both water and energy.

The quantity of waste decreased by 27% from 2006 to 2007. The positive development is due to an increased focus on waste, which has resulted in a 56% decrease of the quantity of hazardous waste. In com-

14 November 2007, Novo Nordisk organised events to mark the day across the world. In total 278,764 people in 50 countries took part. The company's global advocacy effort to promote awareness of and action on diabetes is a response to the UN Resolution on diabetes, adopted in December 2006, in recognition of diabetes as a major global health challenge and in respect of the human right to proper care. See pp 26-29.

Novo Nordisk's strategy to improve access to diabetes care is a long-term leadership strategy to promote medicines as well as to provide sustainable diabetes care for all. The company has revisited its activities and framed a new global programme targeting particularly vulnerable populations: migrant communities in developed countries, people in least developed countries and emerging economies, and children. See p 29.

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Business results | Outlook and forward-looking statement

outlook for 2008

Novo Nordisk expects slightly more than 10% growth in sales measured in local currencies for 2008.

This is based on expectations of continued market penetration for Novo Nordisk's key strategic products within diabetes care and biopharmaceuticals, as well as expectations of increased competition during 2008.

Given the exchange rates prevailing on 28 January 2008, the reported sales growth in 2008 is expected to be around 3.5 percentage points lower than the growth rate measured in local currencies.

For 2008, reported **operating profit** is expected to increase by at least 25% despite the negative currency environment. The guidance for reported operating profit for 2008 includes an estimate of non-recurring costs of DKK 300 million in relation to the discontinuation of AERx[®] to cover severance payments and other costs. Adjusting for the impact from currency and the non-recurring costs in 2007 and 2008 related to the discontinuation of AERx[®], underlying operating profit is expected to grow by at least 20%.

For 2008, Novo Nordisk expects a **net financial income** of DKK 450 million, reflecting significant foreign exchange hedging gains, primarily related to the US dollar.

The effective **tax rate** for 2008 is expected to be approximately 24%.

Capital expenditure is expected to be around DKK 2.5 billion in 2008. Expectations for **depreciations, amortisation and impairment losses** are around DKK 2.5 billion, and **free cash flow** is expected to be around DKK 7.5 billion.

All of the above expectations are provided that currency exchange rates, especially the US dollar and related currencies, remain at the level prevailing on 28 January 2008. All other things being equal, movements in key invoicing currencies will impact Novo Nordisk's operating profit as illustrated below:

Invoicing currency

Annual impact on Novo Nordisk's operating profit
of a 5% movement in currency

USD	DKK 470 million
JPY	DKK 140 million
GBP	DKK 85 million
USD-related*	DKK 100 million

* For 2008 onwards the currency sensitivity for USD-related currencies has been focused to solely reflect the impact from CNY and CAD.

Novo Nordisk has hedged expected net cash flows in relation to US dollars, Japanese yen and British pounds for 17, 15 and 10 months respectively. The financial impact from foreign exchange hedging is included in Net financials .

Forward-looking statement

Novo Nordisk's reports filed with or furnished to the US Securities and Exchange Commission (SEC), including this document and the company's Form 20-F expected to be filed with the SEC in February 2008, and written information released, or oral statements made, to the public in the future by or on behalf of Novo Nordisk, may contain forward-looking statements.

Words such as believe, expect, may, will, plan, strategy, prospect, foresee, estimate, project, anticipate, ca words and terms of similar meaning in connection with any discussion of future operating or financial performance identify forward-looking statements. Examples of such forward-looking statements include, but are not limited to

- statements of plans, objectives or goals for future operations, including those related to Novo Nordisk's products, product research, product introductions and product approvals as well as cooperations in relation thereto,
- statements containing projections of revenues, income (or loss), earnings per share, capital expenditures, dividends, capital structure or other net financials,
- statements of future economic performance, future actions and outcome of contingencies such as legal proceedings, and
- statements of the assumptions underlying or relating to such statements.

In this document, examples of forward-looking statements can be found under the headings Business strategy, opportunities and key risks, Performance in 2007, Outlook for 2008 and note 31, Financial Risk, on p 76.

These statements are based on current plans, estimates and projections. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific. Novo Nordisk cautions that a number of important factors, including those described in this document, could cause actual results to differ materially from those contemplated in any forward-looking statements.

Factors that may affect future results include, but are not limited to, global as well as local political and economic conditions, including interest rate and cur-

rency exchange rate fluctuations, delay or failure of development projects, unplanned loss of patents, interruptions of supplies and production, product recall, unexpected contract breaches or terminations, government-mandated or market-driven price decreases for Novo Nordisk's products, introduction of competing products, reliance on information technology, Novo Nordisk's ability to successfully market current and new products, exposure to product liability and legal proceedings and investigations, changes in governmental laws and related interpretation thereof, including on reimbursement, intellectual property protection and regulatory controls on testing, approval, manufacturing and marketing, perceived or actual failure to adhere to ethical marketing practices, investments in and divestitures of domestic and foreign companies, unexpected growth in costs and expenses, failure to recruit and retain the right employees and failure to maintain a culture of compliance. Please also refer to the overview of risk factors on pp 8-9.

Unless required by law, Novo Nordisk is under no duty and undertakes no obligation to update or revise any forward-looking statement after the distribution of this document, whether as a result of new information, future events or otherwise.

[Back to Contents](#)**Pipeline | Overview**

Therapeutic area	Compound/product	Description
Diabetes care		
Insulin	NovoMix® 50/70	Premixed formulations of the rapid-acting modern insulin, insulin aspart. Provide a combined rapid- and intermediate-acting insulin effect at the ratio 50/50 or 70/30.
	NN5401	A next-generation modern insulin.
	NN1250	A next-generation modern insulin.
GLP-1 (Glucagon-Like Peptide-1)	Liraglutide	A once-daily analogue of human GLP-1 stimulating the release of insulin only when glucose levels become too high, and inducing weight loss.
	Liraglutide	A once-daily analogue of human GLP-1 stimulating the release of insulin only when glucose levels become too high, and inducing weight loss.
	Once-weekly GLP-1	A once-weekly analogue of human GLP-1.
Oral	PrandiMet	A single tablet formulation combining the short-acting insulin secretagogue repaglinide with an insulin-sensitising agent, metformin.
Biopharmaceuticals		
Haemophilia	rFVIIa Temperature stable	A temperature-stable recombinant factor VIIa.
	rFVIIa Short-acting analogue	A single-dose, short-acting rFVIIa analogue, a next-generation successor to NovoSeven®.
	rFVIIa Long-acting analogue	A long-acting rFVIIa analogue, a next-generation molecule targeting prophylactic therapy.
	rFVIIa Subcutaneous	A subcutaneous formulation of rFVIIa for the treatment of haemophilia patients with inhibitors.

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Haemostasis	NovoSeven® Novo Nordisk's recombinant blood clotting factor VIIa	The efficacy and safety of NovoSeven® is tested on severe bleeding in trauma patients.
		The efficacy and safety of NovoSeven® is tested in spinal surgery patients.
		The efficacy and safety of NovoSeven® is tested in cardiac surgery patients.
	rFXIII	A recombinant blood clotting factor XIII.
Growth disorders	Norditropin®	The efficacy of Novo Nordisk's Norditropin® in reducing mortality is tested in adult patients in chronic dialysis treatment.
	Long-acting human growth hormone	A long-acting human growth hormone.
Hormone replacement therapy	Vagifem® low dose	A low-dose product for vaginal application intended for effective relief of symptoms associated with vaginal dryness.
	Activelle® low dose	A low-dose continuous-combined product.
Oncology	IL-21	Interleukin 21 is an immuno-stimulatory protein that helps the immune system attack tumour cells.
	Anti-KIR	A first-in-class therapeutic antibody that stimulates the body's own immune system to kill cancer cells.

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Indication	Phase 1	Phase 2	Phase 3	Filed
Type 1 and type 2 diabetes				
Type 1 and type 2 diabetes				
Type 1 and type 2 diabetes				
Type 2 diabetes				
Obesity				
Type 2 diabetes				
Type 2 diabetes				
Haemophilia patients with inhibitors				
Haemophilia patients with inhibitors				
Haemophilia patients with inhibitors				
Haemophilia patients with inhibitors				
Bleeding in emergencies, trauma				
Bleeding during spinal surgery				
Bleeding during cardiac surgery				
Bleeding during cardiac surgery				
Adult patients in chronic dialysis (APCD)				

Growth disorders
Topical hormone replacement therapy
Hormone replacement therapy
Malignant melanoma
Renal cell carcinoma
Ovarian cancer
Colorectal cancer
Acute myeloid leukaemia (AML)
Multiple myeloma

pipeline overview

Novo Nordisk's research and development efforts focus on offering superior therapies that help save people's lives or improve their quality of life.

The strategy is to address unmet medical needs by leveraging the company's core capabilities within diabetes research, protein engineering, expression, formulation and delivery.

In diabetes care the aim is to maintain the company's position as the world leader. In biopharmaceuticals the aims are to expand the franchise within haemostasis and growth hormone deficiency, and to build a presence in inflammation.

See more at novonordisk-trials.com

The website includes results from clinical trials finalised after October 2002 for Novo Nordisk-marketed products and all Novo Nordisk's efficacy clinical trials in phases 2-4. As of mid-2008, all phase 1 trials will be posted. In 2007, phase 1 trials were registered upon requirement by authorities and/ or journal editors as a prerequisite for publication.

See current pipeline overview
novonordisk.com/science/pipeline

Phase 1

Studies in a small group of healthy volunteers, and sometimes patients, usually between 10 and 100, to test a new drug for best dosage and potential side effects.

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Phase 2

Testing a drug at various dose levels in a larger group of patients to learn about side effects, the body's use of the drug and its effect on the condition.

Phase 3

Studies in large groups of patients worldwide, comparing the new medication with a commonly used drug or placebo for both safety and efficacy.

Filed

A New Drug Application is submitted for review by various government regulatory agencies.

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Phase 1

Studies in a small group of healthy volunteers, and sometimes patients, usually between 10 and 100, to test a new drug for best dosage and potential side effects.



Phase 2

Testing a drug at various dose levels in a larger group of patients to learn about side effects, the body's use of the drug and its effect on the condition

pipeline progress

In 2007, significant progress was made across Novo Nordisk's clinical development pipeline.

This overview illustrates key development activities: entries into the pipeline, progression of development compounds, exits from the pipeline and major regulatory approvals.

Diabetes care

With significant investments in the diabetes pipeline, progress was satisfactory in all segments: insulin, Glucagon-Like Peptide-1 (GLP-1) and oral antidiabetics (OAD).

Biopharmaceuticals

Progress in the biopharmaceuticals pipeline was satisfactory in haemophilia, growth disorders and hormone replacement therapy. Within haemostasis, ie critical bleeding, there was a setback following results of the phase 3 trial in intracerebral haemorrhage.

Type 2 diabetes

Once-weekly GLP-1 analogue

Once-weekly GLP-1 human analogue for people with type 2 diabetes is being tested in a phase 1 study initiated in 2007 by Novo Nordisk. With the aim of assuming a leadership position also in the GLP-1 segment, Novo Nordisk is building a portfolio of GLP-1 products.

Haemophilia patients with inhibitors

rFVIIa long-acting analogue

In 2007, Novo Nordisk initiated a phase 1 study of its long-acting recombinant factor VIIa analogue. The analogue is a potential next-generation successor to NovoSeven® in the treatment of haemophilia patients with inhibitors. With its long duration of action it is intended to enable prevention of bleeding for the patient.

rFVIIa for subcutaneous administration

In 2007, Novo Nordisk initiated a phase 1 study of a subcutaneous formulation of rFVIIa for the treatment of haemophilia patients with inhibitors. The subcutaneous administration is expected to provide convenience to patients as the current haemophilia treatment regimen is delivered intravenously.

Growth disorders

Long-acting human growth hormone

In 2007, Novo Nordisk initiated a phase 1 study of a long-acting human growth hormone. The product is intended to provide patients with the convenience of fewer injections.

Immunotherapy

Anti-KIR

Anti-KIR is a first-in-class therapeutic antibody that entered phase 1 studies in AML and multiple myeloma aimed at stimulating the body's natural killer cells to eradicate tumour cells. Novo Nordisk expects to outlicense Anti-KIR

Type 1 and type 2 diabetes

NN1250

NN1250 is a neutral, soluble, long-acting insulin analogue with improved properties. It entered phase 2 in January 2008.

NN5401

NN5401 is a neutral, soluble, insulin analogue with improved properties. It entered phase 2 in January 2008.

Haemophilia patients with inhibitors

rFVIIa short-acting analogue (NN1731)

In 2007, Novo Nordisk moved its fast-acting recombinant factor VIIa analogue into phase 2. The analogue is a next-generation successor to NovoSeven[®] in the treatment of haemophilia patients with inhibitors. From a single dose its fast haemostatic effect is intended to provide faster cessation of bleeding and pain relief for the patient.

Haemostasis

NovoSeven[®] cardiac surgery

Preliminary results of this phase 2 study confirm the safety profile known from the cardiac surgery setting and from other studies of NovoSeven[®] outside of haemophilia with inhibitors. While the primary aim of this trial was safety, the trial also demonstrated the biologic haemostatic effect of NovoSeven[®].

NovoSeven[®] spinal surgery

Novo Nordisk completed its phase 2 study in spinal surgery trial in 2006 and the project has been on hold in 2007, pending detailed analysis of the results from the cardiac surgery phase 2 trial.

NovoSeven[®] traumatic brain injury

Given the results obtained in the intracerebral haemorrhage study, Novo Nordisk decided not to pursue this indication further.

Immunotherapy

IL-21

IL-21 has shown early signs of biological activity in trials with renal cell carcinoma and malignant melanoma. Further phase 1/2 investigations are ongoing. Novo Nordisk expects to outlicense IL-21.

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Pipeline | Progress

Phase 3

Studies in large groups of patients worldwide, comparing the new medication with a commonly used drug or placebo for both safety and efficacy.

**Regulatory approval**

Following successful completion of phase 3 studies, compounds are sub-mitted for review by national or regional government regulatory agencies. Following regulatory approval the products can be marketed.

Type 2 diabetes**Liraglutide**

Liraglutide is Novo Nordisk's once-daily human analogue of the naturally occurring GLP-1 hormone. In 2007, Novo Nordisk completed five major phase 3 trials in the LEAD (Liraglutide Effect and Action in Diabetes) development programme, and regulatory submission is expected by mid-2008 in Europe and the US. The progress and clinical results of the LEAD trials were encouraging. See more on pp 32-33.

In 2007, Novo Nordisk successfully completed the phase 2 study of liraglutide as an antiobesity treatment for obese, non-diabetic people.

Type 1 and type 2 diabetes**AERx[®] iDMS**

Novo Nordisk has decided to refocus its activities within inhaled insulin and to discontinue clinical development of AERx[®] iDMS insulin, which was in phase 3 development. The decision was based on a detailed analysis of the future prospects for inhaled insulin and a review of the medical and commercial potential of the AERx[®] inhaled insulin system. The decision to discontinue the development of AERx[®] was not due to safety concerns.

Haemostasis**NovoSeven[®] intracerebral haemorrhage**

In 2007, Novo Nordisk completed the phase 3 study with NovoSeven[®] in patients suffering from a bleeding in the brain, intracerebral haemorrhage. The trial showed that treatment with NovoSeven[®] significantly reduced intracerebral bleeding compared to placebo treatment. Improvement in clinical outcomes in terms of functional independence and neurological impairment was observed on day 15 after the bleeding, but mortality and severe disability were not improved at the end of the study period (day 90). With regard to safety, study results were in line with the established safety profile of NovoSeven[®]. Novo Nordisk decided not to file for regulatory approval.

NovoSeven[®] trauma

In 2007, Novo Nordisk continued its phase 3 study with NovoSeven[®] in severe bleeding in patients suffering a trauma. The phase 3 trial is expected to be completed in 2010.

Growth disorders**Norditropin[®] adult patients in chronic dialysis**

In 2007, Novo Nordisk initiated a global phase 3 study for the treatment of adult patients in chronic dialysis (APCD) with its human growth hormone Norditropin®. The 2,500 patients will be treated for two years.

Hormone replacement therapy (HRT)

Vagifem® low dose

In 2007, Novo Nordisk successfully completed the US phase 3 study of Vagifem® low dose, a topical product for vaginal application. The product is now filed for regulatory approval in the US. A phase 3 study with Vagifem® low dose is ongoing in the EU.

Type 1 and type 2 diabetes

Levemir®

Levemir® is Novo Nordisk's long-acting modern insulin. In 2007, the product was approved and launched in Japan. This completed the launch of the company's full portfolio of modern insulins in Europe, the US and Japan. In total, Levemir® has now been launched in 61 countries.

Furthermore, the European Commission approved Levemir® for use in combination with oral antidiabetics.

NovoRapid®

NovoRapid®, Novo Nordisk's fast-acting modern insulin, was approved for elderly people by the European Commission.

NovoMix® 50/70

Following European approval, the two modern premixed insulins were launched in the first European countries in 2007.

These insulins contain a higher proportion of short-acting insulin compared to the modern pre-mixed insulin NovoMix® 30.

In Japan, NovoMix® 70 was filed for approval in December 2007.

Type 2 diabetes

NovoNorm® Fixed Combo, PrandiMet

In 2007, Novo Nordisk filed a New Drug Application in the US for NovoNorm® Fixed Combo, PrandiMet. The product combines in a single tablet formulation the short-acting insulin secretagogue repaglinide with an insulin-sensitising agent, metformin. Novo Nordisk further granted Sciele exclusive US marketing rights to the product in 2007.

This completed Novo Nordisk's research and development activities within the oral antidiabetics segment as all other small-molecule projects were discontinued and existing projects divested in 2007. Novo Nordisk took this step to dedicate its resources to protein-based pharmaceuticals.

Haemophilia patients with inhibitors

NovoSeven® single dose

NovoSeven® single dose for haemophilia patients with inhibitors was approved by the European Commission and subsequently launched. The treatment regimen is dosed at 270 microgrammes per kilogramme body-weight and is expected to offer patients protection of veins, fewer injections and less interruption to daily life.

rFVIIa temperature stable

rFVIIa temperature stable was filed for regulatory approval in Europe, the US and Japan in 2007. A temperature-stable product is expected to deliver significant patient benefits, including rapid dosing and ease of access to treatment outside of home or hospital settings.

Growth disorders

Norditropin[®]

Norditropin[®] was approved for Noonan syndrome and Turner syndrome in the US. The accessory NordiFlex PenMate[®] was also approved in the US.

Hormone replacement therapy (HRT)

Activelle[®] low dose

In addition to the approval in the US in late 2006, the Activelle[®] low-dose version was approved by the Swedish regulatory authorities in 2007 and the mutual recognition procedure is now ongoing in Europe.

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Concentrated effort to drive progress through the pipeline. Some 4,200 new employees joined Novo Nordisk in 2007.

challenges to the pharmaceutical industry

The pressure is on in the pharmaceutical industry. Staying competitive requires more than financial muscle – market shares are increasingly earned through innovation, flexibility and the ability to respond to societal challenges. The industry is faced with increasing R&D costs, patent expiries and low R&D productivity. Companies must also navigate in a business environment characterised by heightened regulatory pressures, cost containment of public health-care budgets and a general scepticism about the industry's interest in improving human health.

Challenges such as these are surfacing against a backdrop of rising healthcare costs, an escalating chronic disease burden and a growing and ageing population.

Globalisation affects both the business environment and health trends: greater wealth frequently translates into unhealthy lifestyles, which in turn prompts an upsurge in health disorders and increased pressure on healthcare budgets in developed and developing countries alike.

Innovation in the pipeline

The industry's ability to develop new products is being questioned in light of a decreasing number of approvals of new medicines. In 2006, the US Food and Drug Administration approved just 22 new molecular entities (NMEs) and biologics despite a record 55 billion US dollars expenditure on research and development by North American companies. In 1996, when spending on R&D was less than half this figure, a total of 53 NMEs were approved.

1.2

billion people in developing countries will be middle class by 2030 three times today's number.

66%

of all older people are living in the developing world; by 2025, it will be 75%, according to the WHO.

50%

of people with diabetes in the OECD countries have their eyes checked every year.

This approval slowdown, which coincides with lucrative products going off-patent, augurs badly for a sizeable segment of the industry.

Compared to its peers, Novo Nordisk is relatively well insulated against these trends – flexibility in funding innovation is aimed at keeping the pipeline busy. Globally, competition in the pharmaceutical industry is intensifying. Novo Nordisk recognises that continued spending on R&D is crucial to its ability to remain competitive, and its annual expenditure here is one of the highest in its class.

Novo Nordisk currently has quite a strong pipeline supported by the necessary technology platforms and core competences. Two other strengths are our ability to find new indications for existing molecules and our focus on meeting unmet medical needs among neglected groups of patients, says Lars Rebieen Sørensen.

R&D investments are accelerating in emerging markets such as India and China with their large pools of highly qualified people, and Novo Nordisk is building its presence in these countries.

Patents and partnerships

Over the next few years, the pharmaceutical industry faces a flood of patent expiries, giving generic companies the opportunity to enter the market with cheaper products. In response, some companies are cutting jobs in an effort to rein in costs before they lose patent protection. Novo Nordisk's current exposure is less severe, allowing it to create rather than cut jobs.

Another advantage is Novo Nordisk's biopharmaceutical expertise: the production process is technologically demanding and its products, based on large, complex molecules, are more difficult to copy or modify than chemical drugs.

Identifying promising new drug candidates in early development and collaborating with their inventors is an additional Novo Nordisk strategy.

For Novo Nordisk, partnerships such as the licence agreement it signed in December 2007 with C2X Pharma and the French national institute for health and medical research (Inserm) for thrombin-activable factor X, should provide

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Clinical trials require meticulous measurement.

CEO Lars Rebien Sørensen visits the Naivasha District Hospital in Kenya.

effective tools in broadening the portfolio of haemophilia and haemostasis projects. Partnerships can be cost-effective methods of leveraging expertise, and we intend to avail ourselves of more such opportunities, says Lars Rebien Sørensen.

More regulatory pressure

At the same time as competition between pharmaceutical companies is intensifying, regulatory authorities are exerting more pressure on the industry. Companies are being asked for greater proof that new compounds submitted for approval have a benefit over products already available. This includes requests for more safety data, which is also made publicly available, as well as a demand that companies continuously

Compared with many of our peers, we are in a fortunate position. Our top-line performance is strong, productivity in the pipeline is high, we are relatively well protected against patent expiries, and our production capacity and sales forces are geared for continued expansion.

Lars Rebien Sørensen
president and chief executive officer

track the safety and efficacy of products after they are marketed by way of phase 4 studies. Such requirements are being harmonised internationally, increasing the scale and complexity of clinical trials. Novo Nordisk uses its experience and knowledge within its core therapeutic areas to work together with authorities to design studies that address these concerns. Consistently high ethical standards within clinical trials and transparency on clinical trial results are key to the company's approach.

Demonstrable value for money required

Healthcare costs are rising, with governments and payers straining to meet the needs of the growing disease burden. Healthcare spending has historically outpaced economic growth everywhere in the world, a trend set to continue. The total global expenditure for healthcare is

4 trillion US dollars, according to the World Health Organization. The cost burden is prompting governments and payers to look more closely at the value of pharmaceutical products. While spending on medicines has gone up as part of the overall healthcare bill, medicines' share of healthcare spending remains very small – about 10 cents of every dollar spent in the US on healthcare, for example.

In this challenging environment, pharmaceutical products must demonstrate value for money, which is why Novo Nordisk is increasingly focused on producing evidence of the health-economic benefits of its products, and particularly of improved diabetes treatment. One such initiative is the Global Changing Diabetes® Barometer (see pp 27–28), which demonstrates the substantial savings that may accrue to payers from diagnosing diabetes early and before any complications arise.

Ethical conduct is a business imperative

Ethical, social and governance issues are also gaining greater prominence. Increasingly, investors and customers expect evidence of ethical behaviour in all aspects of business, including the conduct of clinical trials and the promotion and marketing of products. Stakeholders are looking at companies' ability to handle such issues consistently across diverse markets. Well before this trend became common currency, Novo Nordisk formulated its Way of Management (see p 6). This blueprint, with its clear description of core values, implies that the challenges faced by the industry are best resolved by working in partnership with governments, regulators and the healthcare community to meet the world's healthcare needs. The company-wide implementation of a business ethics policy underpins this values-based approach.

It takes a lot of effort to earn and maintain stakeholder trust. As a healthcare company, we have a particular responsibility when it comes to how we do business, how we make our money, and also how we spend it, says Lise Kingo, executive vice president and chief of staffs.

And the best response to scepticism, she says, is transparency and honest engagement with critical stakeholders.

Market research shows that there are five key drivers impacting a company's reputation: perceived quality of its products, its services, market leadership, corporate responsibility and innovation. Reputation study results in 2007 from four strategic markets – the US, Germany, the UK and China – show a solid performance of Novo Nordisk.

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Leif Henriksen and Peter Jacobi at Biopharmaceuticals, Gentofte, Denmark. They and their colleagues have optimised energy and water consumption and reduced CO₂ emissions from 2004 to 2007 by 9.5%.

lean production cuts costs

To stay competitive in a globalising world Novo Nordisk has invested in establishing seamless global supply and maintains a strong focus on optimising production efficiency. This effort underpins the company's ambitious strategy in response to the climate change challenge.

Intensified competition from biosimilar production and cost containment by payers have increased the urgency for optimising cost margins. Over the last few years, Novo Nordisk has successfully driven its gross margin upwards and will continue this effort to outperform its peers. In light of the company's market leadership in diabetes care and the boost to productivity achieved by the company's cLEAN[®] programme, this goal is attainable. cLEAN[®] is Novo Nordisk's version of lean – a well-known process optimisation philosophy. The small 'c' stands for current and emphasises that cLEAN[®] evolves continuously. As of 2007, its methods are also being adopted within research and development and administrative areas.

These improvements, along with an improved product mix, make a significant contribution to the company's financial results. The gross margin improved to 76.6% in 2007 from 75.3% in 2006. This enables Novo Nordisk to invest for the future by putting more funds into research and development and expanding the sales force.

Empowering people to act

Backed by the support of top management, Novo Nordisk has invested substantially in the cLEAN[®] programme. Through a

2014

is the year by which Novo Nordisk aims to supply all its Danish facilities with electricity from wind farms.

12,000

tons of CO₂ emissions are estimated to have been eliminated by recent Novo Nordisk energy-screening programmes.

cLEAN[®] Academy, all employees in Product Supply will have completed training in its basic concepts by 2010. This is complemented by more in-depth training for certain employees. The training is as much about behaviour as it is about tools. cLEAN[®] is a mindset, and one that empowers employees to act whenever they see room for improvement and business benefits, not just in terms of costs. The goal is that continuous improvement leads to more stable and efficient processes and eliminates waste – saving time, money and resources. The programme is global, with production employees in Brazil, China, Denmark, France, Japan and the US all following the same philosophy.

As evidence that this strategy is working, Novo Nordisk has not needed to increase its Product Supply staff levels since 2003, even though the company's production volume has grown significantly in that time.

Kim Lorenzen, project manager at the Material Handling warehouse in Hillerød, Denmark, agrees: cLEAN[®] shakes us out of our daily routines and inspires us to think along different lines.

cLEAN[®] in action

As an example of how the cLEAN[®] philosophy plays out, employees in diabetes product manufacturing at Novo Nordisk in Denmark set the goal of increasing the capacity for the freeze-drying of products to better meet market demand. Freeze-drying is used to ensure long product life, easy transportation and the prevention of chemical and biological reactions. Through a combination of reduced shift times and process optimisations, capacity increased by 236%, saving money, maintenance and equipment.

At the Novo Nordisk insulin production facility in Clayton, North Carolina, US, the use of cLEAN[®] tools to make a mechanical improvement and remove a persistent bottleneck reduced downtime by 93% on an insulin pen cartridge filling line.

At the Diabetes Active Pharmaceuticals Ingredients Quality Control laboratory in Kalundborg, Denmark, the team was

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On 30 November 2007, some 70 investors and analysts visit Kalundborg, Denmark – site of the world’s largest insulin plant and the facility that will soon produce liraglutide.

Lars Clausen, executive vice president, DONG Energy, and Lise Kingo, executive vice president and COS, Novo Nordisk, seal their ambitious wind power deal with a handshake.

able to shorten analysis time by more than 25% by turning the spotlight on one of the ‘invisible’ tasks easily overlooked in the busy daily routine. The key to the results was performance management and immediate follow-up.

Also in Kalundborg, new cooling towers at the fermentation plant boost capacity by 50% and at the same time achieve the largest single reduction in energy consumption: annual savings of 4 million kWh and an annual reduction in CO₂ emissions of some 2,500 tons.

Production efficiency accelerates CO₂ reduction

At the same time, production efficiency underpins Novo Nordisk’s climate strategy and contributes to lowering the levels of CO₂ emissions. The company has set an ambitious target, as part of its commitment to the WWF Climate Savers programme, to reduce CO₂ emissions in 2014 to a level that is 10% below the 2004 level, despite a significant production increase.

Novo Nordisk is committed to actively addressing climate change. Reducing carbon dependency is a business priority, and the company acknowledges its responsibility to respond to what is now recognised as one of the greatest global challenges to our future.

The three levers in Novo Nordisk’s climate strategy are optimisation through cLEAN®, energy savings in production and conversion to renewable energy. Energy-screening programmes from 2005 to 2007 led to an estimated reduction in CO₂ emissions of 12,000 tons.

An innovative partnership for wind power

In 2007, Novo Nordisk entered into a pioneering agreement with DONG Energy, Denmark’s largest energy company: DONG Energy assists Novo Nordisk in identifying energy-saving options and in return Novo Nordisk will purchase corresponding quantities of energy from a new offshore wind farm off the west coast of Denmark.

With this agreement Novo Nordisk has devised a cost-neutral way to significantly achieve reductions in CO₂ emissions and at the same time help build the market for renewable energy in Denmark. This is what makes the agreement unique: it is commercially viable, and that makes it a solution that both parties would like to see other companies adopt.

From 2014, Novo Nordisk is expected to purchase about a third of the total energy produced by the wind farm. The aim is that, by then, electricity supplies for Novo Nordisk’s facilities in Denmark, which currently account for 85% of the company’s total CO₂ emissions, will be entirely based on power from this wind farm. The partnership will run till 2020.

A quality mindset

In times of increased regulatory pressure for the pharmaceutical industry to meet high safety and quality standards, emphasis on quality goes hand in hand with effective and efficient production. More stable processes serve to ensure product quality.

We are doing more with less, quite simply. Low unit costs allow us to invest more in research and development and in sales and marketing. This is what will keep us strong in the long run, and it’s a very motivating message to our employees.

Per Valstorp

senior vice president, Product Supply

At Novo Nordisk, cLEAN® in manufacturing is an expression of the Quality Mindset, one of the fundamental management principles in the Novo Nordisk Way of Management: Everyone must continuously improve the quality of their work.

The robust quality system at Novo Nordisk has resulted in a consistently high level of performance regarding the quality of the company’s products as well as compliance in the manufacturing of products. Novo Nordisk’s production is generally in compliance with international standards for current good manufacturing practice (cGMP). In 2007, more than 70 inspections by various health authorities or certifying bodies were passed.

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Business environment | Values in action

responsible business practices

Consistent messages and a broad perspective take precedence over ad hoc solutions to win short-term competitive gains. Novo Nordisk's presence in its markets relies on trust. This has been built over many decades and is a valuable asset that must be protected and nurtured.

The discovery, development and marketing of medical drugs entail careful attention to a range of ethical considerations. Novo Nordisk upholds high global standards in the areas of human ethics (clinical trial ethics, stem cell ethics), animal ethics (the reduction, refinement and replacement of animal experiments) and the use of gene technology in research and production. These ethical criteria also apply to external partners such as contract research organisations. On several occasions, the company has been the driver behind new standards that have gained wider adoption in the industry. In 2007, a dedicated website on bioethics was launched.

Transparency of clinical trials

Since 2005, Novo Nordisk has published the results of all sponsored phases 2-4 interventional trials for marketed products. This was done in response to stakeholder demands for increased transparency. In 2007, Novo Nordisk introduced its own dedicated clinical trials website novonordisk-trials.com providing an overview of all later-stage (phases 2-4) clinical trials. In 2008, phase 1 studies will also be disclosed.

Novo Nordisk only conducts clinical trials in countries where it intends to seek marketing approval and where there is an ethics committee to approve the trial. In 2007, more than 20,000 people in 46 countries were involved in Novo Nordisk-sponsored clinical trials. Around 40% of the people involved live in developing countries. People who participate in Novo Nordisk trials only do so with informed consent and will always be offered the best available and proven treatment after the end of the study.

95%

of employees in sales and marketing were trained in business ethics standards.

20,000

people were participants in Novo Nordisk clinical trials in 2007.

40%

of people involved in Novo Nordisk clinical trials live in developing countries

When testing investigational compounds we use only one clinical standard. So the same guidelines apply to our clinical trials in any country, supplemented, of course, by adherence to local rules, says Anders Dejgaard, chief medical officer, Global Development.

Ethical marketing practices

Novo Nordisk's business ethics programme includes compliance with legislation and offers guidance on individual behaviour. The Business Ethics Policy is backed by three procedures for ethical business conduct, product promotion and contracting with agents and other third parties. Managers and members of senior management participate in training workshops. Business ethics e-learning is mandatory for all managers, and the e-learning programme is open to all employees. In 2007, 95% of employees in sales and marketing were trained in face-to-face workshops around the world. A Compliance Hotline is in place to alert management to possible breaches of the policy, and performance is monitored via audits.

A human rights perspective

Novo Nordisk supports the United Nations Universal Declaration of Human Rights, which celebrates its 60th anniversary in 2008, and has actively done so since 1999. As a signatory to the United Nations Global Compact, Novo Nordisk is committed to supporting and respecting human rights throughout its sphere of influence, primarily its relations with employees, suppliers and customers.

Engaged in the public debate

As part of its strategy to achieve broader business goals, Novo Nordisk seeks to make voices heard in order to raise awareness of the current unsustainable path of diabetes. Novo Nordisk's global public affairs strategy rallies people with diabetes, healthcare professionals, decision-makers, patient organisations, media and constituency groups around new solutions. The aim is to get governments and international organisations to give diabetes priority on a par with its scope and severity and to improve health outcomes for people with diabetes.

The company has Government Affairs offices in

Washington and Brussels. Both offices focus on efforts to improve diabetes treatment. Recent US achievements include the introduction of bipartisan legislation, supported by the American Diabetes Association, which will create a cross-agency programme to promote wider use of Medicare's diabetes screening benefit, saving money and lives.

Global public affairs standards

Novo Nordisk's Changing Diabetes® campaign leverages both public relations and public affairs activities (see pp 26-29). To ensure consistency with the Novo Nordisk Way of Management and compliance with requirements from governments and international institutions, a set of global public affairs standards is being instituted. This will include rules governing external disclosure.

People participating in Novo Nordisk trials do so with informed consent and are always offered the best available and proven treatment after the end of the study.

See more on responsible business practices at novonordisk.com/sustainability. Click: [Values in action](#)

[Back to Contents](#)**Business environment | People**

people put values to work

Novo Nordisk's culture and values serve to bridge the increasingly diverse global employee base and ensure a consistent approach to its way of working.

In pace with its rapidly growing business, Novo Nordisk is expanding its workforce. At the end of the year, the total number of employees was 26,008 – an increase from 2006 of 2,395 people. For the first time, the majority are located outside the company's home base in Denmark.

An expansion of this magnitude carries the challenge of smooth induction into the Novo Nordisk Way of Management. This values-based approach guides the way employees approach their work, no matter where in the world they are located.

In the annual organisational review three strategic drivers were identified: globalisation, innovation and leadership. In response, the Global People Strategy focuses on talent and leadership development, talent attraction, performance management, people engagement and organisational development.

An engaging culture

Company values – being accountable, ambitious, responsible, engaged with stakeholders, open, honest and ready for change – are seen in daily interactions between managers and employees as well as in dealings with external parties.

A high degree of identification with these values is evidenced by the level of employee engagement. In 2007, eVoice, the global employee survey, included a new index mapping the level of engagement measured by 10 criteria. Employees were asked to indicate on a scale of 1 to 5 the extent to which they agreed with statements such as: 'Novo Nordisk is leading the fight against diabetes', 'Novo Nordisk's results within the social and environmental area are important to the future of the company', and 'I know how my job contributes to the success of Novo Nordisk'. The average score was 4.1.

Employees are inspired by the company's vision and values,

12,256

more people worked at Novo Nordisk in 2007 than in 2000; a workforce expansion of 89%.

1,120

applications were received for 27 Novo Nordisk jobs during a 2007 graduate recruitment drive.

1st

place was Novo Nordisk's ranking in the 2007 'Best Places to Work in New Jersey' awards programme.

and our Triple Bottom Line approach to doing business,' says Executive Vice President and Chief of Staffs Lise Kingo.

In external surveys a similar picture is apparent: Novo Nordisk's values and culture combined with the company's focus on people development appeal to graduates and other job seekers. In 2007, the company had 1,120 applicants for 27 positions in its graduate programmes.

Also in 2007, Novo Nordisk in the US was ranked the top employer in New Jersey in competition with many other, larger pharmaceutical companies. In Denmark, Novo Nordisk's retention rates exceed industry benchmarks. However, in fast-growing and competitive markets like China it remains a challenge to retain talented people. For this reason, the company has established an MBA programme for Novo Nordisk managers in China at the prestigious Peking University (see p 37).

Spurring talent development

We have a strong organisation with a motivated workforce. But that does not invite complacency. We need to raise the bar constantly for how we develop our leaders and support the development of all our employees. This is key to our future business success,' says Lars Christian Lassen, senior vice president, Corporate People & Organisation.

Novo Nordisk offers tailored education programmes for all employees. These include introductory programmes for new employees, a wide range of professional courses and management development programmes. The company's investment in training and development exceeds the industry average, as measured by average training costs per employee.

New managers undergo mandatory leadership training and vice presidents and general managers also complete a mandatory programme, Spotlight, which focuses on personal leadership. In addition, there are two talent programmes for leaders who demonstrate high potential: Lighthouse for vice presidents and general managers, and Greenhouse for managers and young talent.

Since 2004, 75 vice presidents and general managers have completed the Lighthouse programme, which is designed to explore personal leadership, sustainability and innovation in new ways. Participants meet people from diverse backgrounds who can stimulate new thinking: Native American leaders, people living in the favelas of Rio de Janeiro or healthcare workers in Beijing.

The Lighthouse pool is the source of eight out of ten

senior leadership appointments.

Promoting a healthier lifestyle

The NovoHealth programme, aimed at preventing lifestyle diseases among employees, is now a global effort. This programme encourages and supports a healthy lifestyle by offering access to healthy food in the workplace, a

smoke-free work environment, exercise and individual health checks every second year.

Health-promoting activities across the organisation will be aligned through NovoHealth to ensure sharing of better practices.

See more on people and workplace at novonordisk.com/sustainability
Click: [Values in action](#)

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US ballerina Zippora Karz dances on despite diabetes.

Times Square, New York, on World Diabetes Day, 14 November.

the challenge to change diabetes

The scale of the diabetes pandemic continues to escalate and diabetes could become the worst pandemic of the 21st century. As a global leader in diabetes care, Novo Nordisk has the potential and moral obligation to make a difference beyond providing better medicine and devices.

The company's medical ambition sets the bar: The goal is to improve patient outcome and save lives, and this is what drives the Changing Diabetes® activities. It builds on Novo Nordisk's position as the global leader in diabetes care, underpinned by its full portfolio of modern insulins and more than 80 years of experience. Novo Nordisk actively supports the implementation of the UN Resolution on diabetes and in 2007 demonstrated its commitment to work with partners: united to change diabetes.

There are 246 million people worldwide with diabetes, a number expected to reach 380 million by 2025, according to the International Diabetes Federation (IDF)¹⁾. Millions more may develop diabetes due to the risk factors of overweight and obesity, sedentary lifestyles and unhealthy diets. Other societal factors such as globalisation, urbanisation, an ageing population and migration are driving the diabetes pandemic.

278,764

people in 50 countries were engaged in Novo Nordisk-led activities on World Diabetes Day, 14 November 2007.

55%

of diabetes deaths are among women

In March 2007, Novo Nordisk teamed up with former US President Bill Clinton for a debate about the future of diabetes treatment.

Today, the quality of life for people with diabetes is far from acceptable. Two out of three people are in poor control of their diabetes because of inadequate access, treatment or care. More than 50% of people with diabetes do not even know they have it. Poor control translates into late-stage complications such as blindness, kidney disease and lower-limb amputations, affecting the quality of life of people with diabetes and their families.

When numbers grow so large, they tend to lose their meaning. Behind the figures are people with diabetes whose biggest wish is to see this debilitating condition effectively defeated.

Advocacy for change

Novo Nordisk advocates an ambitious approach to changing diabetes. Firstly, to give priority to people with diabetes and

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Denise Cleary is a diabetes sales representative in Newfoundland and Labrador on the east coast of Canada.

270 cyclists, including 25 Novo Nordisk employees, joined the 10th Ride to Cure Diabetes in Death Valley, California, on 20 October.

convince governments and international organisations of the need to give diabetes priority. Secondly, to drive health outcomes for people with diabetes. And thirdly, to mobilise political support to break the curve of the global diabetes pandemic.

These are the strategic cornerstones of Novo Nordisk's global Changing Diabetes® programme.

Leadership in action: sustainable health policy

As part of its collaborative, multi-stakeholder approach to changing diabetes, Novo Nordisk held the first Global Changing Diabetes® Leadership Forum in March 2007. The Forum's ambition was to translate the UN Resolution on diabetes, adopted by the United Nations General Assembly in December 2006, into national action plans for the prevention, treatment and care of diabetes.

The keynote speaker at the Forum was former US President Bill Clinton, who stated: 'There is a rising tide of obesity and resulting diabetes; it is an unbearably inhumane problem that falls disproportionately on the poor. We will compromise our country's economic future even as we risk raising the first generation of children who will live shorter lives than their parents. We will never be forgiven, and I mean never, if we allow our children to live shorter lives than our own.'

The Forum was attended by some 150 representatives of governments, international organisations and patient organisations as well as academics and journalists from 21 countries. Their dialogue took inspiration from *Redefining Health Care: Creating Value-Based Competition on Results*, by professors Elizabeth Teisberg and Michel E. Porter. The book claims that healthcare systems today have 'the wrong type of competition' – a competition to shift costs instead of improve care.

At the Forum, Novo Nordisk's President and Chief Executive Officer Lars Rebieen Sørensen pledged to launch a diabetes barometer – a

We have a medical ambition to improve patient outcomes by focusing on transparency and measurability to drive change. The Changing Diabetes® Barometer will guide our efforts towards our ultimate goal of allowing all patients to have an HbA_{1c} below 7%.

Jakob Riis
senior vice president, International Marketing

global tool that would track and measure best performance in the prevention, treatment and care of diabetes worldwide.

'What you can measure, you can manage,' Lars Rebieen Sørensen elaborated.

This initiative is part of Novo Nordisk's response to help implement the UN Resolution on diabetes.

Barometer: tracking performance

In November 2007, Novo Nordisk launched the global Changing Diabetes® Barometer²⁾. It identifies diabetes indicators such as the HbA_{1c} test of blood sugar level, using published data. The Barometer aims to provide a scorecard for tracking change and pinpointing areas in need of improvement so that healthcare providers, governments and patient associations are better able to measure progress and set priorities for national diabetes action plans.

The first Barometer report covers 21 countries. It highlights that lifelong healthcare cost can be reduced by as much as 20% and that people with diabetes can live longer and better lives if they are treated

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Diabetes care | Changing diabetes

adequately and diagnosed earlier, before any complications arise. The report found that 10 of the 21 countries did not have a national diabetes strategy in 2007. Seven countries lacked data on important treatment indicators such as HbA_{1c}, blood pressure and lipids levels, and only a couple of countries had systems in place enabling registration of data on key treatment indicators and consistent follow-up on a national scope.

It is essential that we figure out how to be far more effective in preventing diabetes, or at least preventing its progression to complications, says professor Elizabeth Teisberg. Improved early-stage care can dramatically reduce the incidence of amputations, blindness, heart attacks and other complications. The Barometer will spur discussion about ways to improve outcomes over the full cycle of care.

The cost of inaction

Inaction is far costlier to society than investing today in better diabetes diagnosis, treatment and prevention. That was a key conclusion of The Silent Epidemic³⁾, an economic study of diabetes in developed and developing countries carried out by the Economist Intelligence Unit (EIU) and sponsored by Novo Nordisk.

The EIU study looked at the economic cost of diabetes in five countries: China, Denmark, India, the UK and the US. It concluded that the health spending and productivity loss arising from diabetes are already taking a noticeable share of GDP from many countries. In India, for example, which has the world's largest number of people with diabetes, productivity losses took the equivalent of 20.4 billion US dollars from India's economy, or 1.9% of GDP. This amounts to a productivity loss of 497 dollars per individual with diabetes, equivalent to around half of India's per capita GDP.

86,000

people have visited Novo Nordisk's Changing Diabetes® Bus during its journey across five continents stopping in 13 countries.

80%

of diabetes deaths occur in low- and middle-income countries.

Novo Nordisk is undertaking several socio-economic studies to examine the burden of diabetes and the costs and benefits of improved diabetes care, including in China and India, which have the largest diabetes populations in the world.

If diabetes remains unchanged, the world will face an impossible economic burden alongside a devastating toll on the lives of many people, says Charlotte Ersbøll, corporate vice president, Branding and Responsibility. With leadership comes responsibility. Novo Nordisk has the capability to make changes and innovate for new solutions to the diabetes epidemic where it is hitting the hardest.

Inclusive access to diabetes care

Novo Nordisk supports the United Nations Millennium Development Goals and recognises the link between poverty and ill health. The company's framework programme Changing global access to diabetes care aims to ensure that the company is acting responsibly and proactively to make diabetes care inclusive for all across geographies, cultures, social standing, age, gender and ethnicity. Access to health defined as availability, accessibility, affordability and quality is a critical precondition for effective prevention, treatment and care. The programme targets disadvantaged communities and the most vulnerable population groups with the lowest access to diabetes care, specifically people living in the least developed countries, low-income groups in emerging economies, migrants in developed countries and children.

Novo Nordisk's initiatives towards global access to diabetes care are the result of a long-term leadership strategy not only to promote medicines, but also to provide sustainable diabetes care for everybody who needs it. This ambition poses huge challenges. The solution hinges on the ability to drive

Public affairs roadmap for Changing Diabetes®

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By 2025, an estimated 80% of all people with diabetes will live in developing countries. Improving these people's access to proper care is a moral obligation. Finding commercially viable solutions to curb the diabetes pandemic is a business imperative.

Lise Kingo

executive vice president and chief of staffs

focused, targeted and collaborative actions. Novo Nordisk cooperates with governments, healthcare providers, NGOs, universities, healthcare professionals and diabetes associations worldwide to establish data, build evidence and pilot new intervention approaches.

The new global access programme builds on the experience gained during the past five years of work through several initiatives. Programmes such as the pioneering World Partnership programme in eight developing countries, the National Changing Diabetes[®] programmes with an accumulated 406 activities in 66 countries, the pricing policy focused on offering affordable insulin to the world's 50 least developed countries and the projects funded by the World Diabetes Foundation have one common denominator: they offer a partnership approach to filling gaps in under-resourced and unsustainable healthcare systems.

New initiatives include:

Maternal health in India: the World Diabetes Foundation turns five

At a local maternity clinic on the outskirts of Chennai, hundreds of pregnant women have gathered to be screened for gestational diabetes mellitus (GDM) at the Dr V Seshiah Diabetes Care and Research Institute. Some women are here for the first time, encouraged by posters or public announcements to take a free blood test. Others already have GDM and are here to have a monthly check-up. All are present as part of a project called Diabetes in Pregnancy Awareness and Prevention (DIPAP). It targets GDM, a type of diabetes that affects pregnant women who were not known to have diabetes previously. The project is supported by the World Diabetes Foundation (WDF). There is no known specific cause of GDM, but it is believed that the hormones produced during pregnancy reduce a woman's receptivity to insulin, resulting in high blood sugar. Undiagnosed, it can lead to miscarriages or stillbirths, malformations, large babies with the risk of injuries during delivery and a higher risk of mother and child developing diabetes.

For the WDF, which marked its fifth anniversary in 2007, the clinic's work is an example of how small projects can influence the quality of life of thousands of people with diabetes. Five years ago, India had no authentic data from large populations on the prevalence of GDM. The WDF started funding DIPAP in 2004. Since then, 13,139 women in the State of Tamil Nadu have been screened for diabetes and 1,700 cases of GDM have been detected. A healthy diet and exercise are sufficient treatment for 95% of women with GDM. Furthermore, project data has established that 16% of all pregnant women in urban areas and 10% in rural areas develop gestational diabetes. This data has played a significant role in changing policies for GDM treatment in the

southern-Indian state of Tamil Nadu, which has a population of 62 million.

The WDF is an independent trust founded by Novo Nordisk to address diabetes in the world's poorest countries. It is the only international foundation devoted solely to funding projects within diabetes care. In its first five years, it has funded 138 projects in 77 developing countries, focusing on diabetes awareness, education, capacity-building and better access to healthcare. Our mantra is to be a catalyst to help others do more, explains WDF Managing Director Dr Anil Kapur.

See more at worlddiabetesfoundation.org

pilot projects in Cameroon, Guinea, Tanzania and Congo aiming to ensure that the preferential prices offered by Novo Nordisk to governments in least developed countries make insulin more affordable and available to more patients, the development of tools to bridge disparities in healthcare, targeted at migrant communities, pilot projects aimed at securing access at the base of the pyramid, starting in BRIC countries (Brazil, Russia, India and China), a programme targeted at improving the lives and well-being of children with diabetes worldwide.

Children and youth at risk

Type 2 diabetes, once considered the adult-onset form of diabetes, is now on the rise among children and adolescents, due to the same lifestyle factors prompting the rise of the pandemic among adults. World Diabetes Day 2007 centred on the impact of diabetes on children and adolescents. In September 2007, at the congress of the European Association for the Study of Diabetes (EASD), Novo Nordisk and the IDF presented a global overview of the diabetes burden among children and adolescents. This expert review into existing data and global trends within childhood diabetes, now referred to as the Diabetes Youth Charter⁴, highlighted that many children are in poor control of their diabetes. The experts found that early diagnosis, prevention and improved control could help prevent many deaths. Following this, Novo Nordisk, together with the IDF and the International Society for Pediatric and Adolescent Diabetes (ISPAD), launched the DAWN Youth programme at the ISPAD Congress in September 2007. This programme will facilitate advocacy, research and action to improve the lives of young people with diabetes and their families. DAWN⁵ (Diabetes Attitudes, Wishes and Needs) is Novo Nordisk's global study of the psychosocial barriers to diabetes care.

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Diabetes care | Strategy

improved prevention, detection and treatment

As the world leader in diabetes care, Novo Nordisk's ambition is to defeat diabetes by finding better methods of prevention, detection and treatment. The company's strategy is framed around the promise of changing diabetes and finding ways to improve people's lives.

Modern insulin therapy serves individuals' varying needs and lifestyles while providing blood sugar control and, in some instances, less weight gain in a simple and cost-effective way.

Novo Nordisk is the only company that offers a full range of modern insulins (see box). The company is intent on expanding its leadership within injectable insulins by pushing market penetration and seeking label extensions, while continually exploring alternative delivery methods.

We are continuously building upon our expertise in protein expression and engineering, protein formulation and device technology. This, coupled with our in-depth understanding of diabetes biology and the causes or origins of diabetes, puts Novo Nordisk in a unique position to realise our vision of eventually defeating diabetes, says Peter Kurtzhals, senior vice president, Diabetes Research Unit.

Other building blocks in the strategy to sustain leadership in diabetes care are a deep understanding of customer needs, coupled with the ability to deliver high-quality clinical data as well as convincing health-economic data that support the arguments for the company's products.

The control factor

The American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD) recommend tight blood sugar control and early adoption of insulin thera-

232

billion US dollars was the estimated world spend in 2007 to treat and prevent diabetes and its complications.

9.2%

of people in North America had diabetes in 2007

py for people with diabetes who are not meeting their treatment goals.

With poor control of their condition, these people risk serious complications such as cardiovascular disease, blindness, kidney disease and lower-limb amputations.

In 2007, the first results of a three-year 4-T trial⁶⁾ (Treating to Target in Type 2 Diabetes) were presented by researchers at the Oxford Centre for Diabetes, Endocrinology and Metabolism. It studied people with type 2 diabetes in Ireland and Great Britain who were not in control of their blood sugar despite taking two different antidiabetic tablets. The trial compared the effects of adding various Novo Nordisk modern insulins to the treatment regimen for one year: three equally large groups were treated with NovoMix[®] 30, NovoRapid[®] or Levemir[®].

The results showed that participants in the trial could lower their blood sugar using any of the insulin regimens tested. The one-year outcome confirmed the advantages of starting once daily with Levemir[®], fewer hypoglycaemic events and less weight gain. In patients with HbA_{1c} (a measure of long-term blood sugar levels) of above 8.5% when entering the study, a more intensified treatment with insulin may be needed to reach target.

Blood sugar control is key

The IMPROVE[®] Control programme, a Novo Nordisk global observational study involving more than 50,000 people with diabetes, is also generating insight into the need for improved control. Participants started on treatment with NovoMix[®] 30. Most of them had either been on tablet therapy or received no treatment. Others had been on insulin therapy, but did not

The modern insulin portfolio

There is no one-size-fits-all approach to diabetes treatment. Modern insulins are designed to mimic the body's own physiological insulin regulation of blood glucose levels more closely than human insulin. Modern insulins offer better glucose control, less hypoglycaemia and increased convenience, leading to fewer serious complications and better treatment outcomes.

Modern insulins are classified by how fast they start to work in the body and how long their effects last. Different types of insulin work differently, depending on many factors such as the body's individualised response to insulin, lifestyle choices, including type of diet and amount of exercise, and how well blood sugar levels are managed.

Novo Nordisk offers a full portfolio of modern insulins covering fast-acting, long-acting and premixed modern insulins:

Levemir[®], a soluble long-acting basal insulin analogue for once-daily use.

NovoRapid[®] (NovoLog[®] in the US), a rapid-acting insulin analogue to be used at mealtimes.

NovoMix[®] 30 (NovoLog[®] Mix 70/30 in the US), a dual-release modern insulin that covers both mealtime and basal requirements.

Novo Nordisk also has advanced products within insulin delivery systems. These include FlexPen[®], the world's most-used insulin delivery device.

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For 50 years, researchers at the Hagedorn Research Institute have worked to find a cure for diabetes.

Over 30 children had lots of fun while learning about diabetes during a bring-your-kids-to-work day at Novo Nordisk in Bagsværd, Denmark.

achieve the treatment targets. Safety and efficacy results after six months' treatment will be presented at the annual meeting of the American Diabetes Association in 2008.

The need for better understanding of diabetes is underscored by research⁷⁾ presented in 2007 by the Global Task Force on Glycaemic Control. This panel of global experts in diabetes and endocrinology, in association with Novo Nordisk, conducted a survey of nearly 1,400 healthcare professionals and more than 1,000 patients in eight countries, and found limited patient awareness and understanding of HbA_{1c} testing. Healthcare professionals underestimated the value of the test in managing diabetes. Another issue highlighted by the study is the fact that in general people only begin insulin treatment after complications have occurred and have become serious.

Convenience drives compliance

People with type 2 diabetes typically start insulin therapy with long-acting or pre-mixed insulin, and experience shows that they want very simple, very convenient devices for administering their insulin. Novo Nordisk offers a broad range of injection devices for added convenience and accurate dosing, but is also committed to pursuing alternative delivery models. This is an area in which Novo Nordisk is determined to gain the lead. Fast-acting inhaled insulin in the form it is known today is unlikely to offer significant clinical or convenience benefits over injections of modern insulin with pen devices. A completely new approach to inhaled insulin is needed. Novo Nordisk has therefore refocused its research and development activities towards inhalation systems for long-acting formulations of insulin and GLP-1. This work will be done in Hayward, California, US, and Hillerød, Denmark, and will target both liquid-based and powder-based technologies.

Opportunities in new treatment options

The scope of the diabetes pandemic and the many unmet treatment needs of those millions of people with diabetes who do not achieve their treatment targets invite fierce competition to offer improved treatment.

Proper treatment of diabetes is not just about medicine but about awareness, education and training.

Lise Kingo

executive vice president and chief of staffs

While modern insulins are currently proven to be the best option, investments are funnelled to research into two new areas. One is next-generation modern insulins, which may offer even better safety and efficacy. The other is GLP-1, a new class of therapies that offer new options for early- and intermediate-stage diabetes.

In 2007, Novo Nordisk announced results from phase 3 trials for li-raglutide. Liraglutide, Novo Nordisk's once-daily human analogue of the hormone GLP-1, is an experimental protein-based option being studied for the treatment of type 2 diabetes. It has been shown to intervene earlier in the disease progression and offer blood sugar control and weight loss. Development of liraglutide and other GLP-1 products is central to Novo Nordisk's strategy for sustaining its leadership in diabetes care (see pp 32-33).

Search for a cure

While much focus is being directed at the earlier detection and improved treatment of type 2 diabetes, Novo Nordisk's commitment to finding a cure for type 1 diabetes remains firm. Through the Hagedorn Research Institute, an independent basic research component within Novo Nordisk that celebrated its 50th anniversary in 2007, Novo Nordisk is the world's largest private sponsor of research into diabetes. Hagedorn is a major industrial partner in two cutting-edge research efforts: Beta Cell Biology Consortium (BCBC), supported by the National Institutes of Health (NIH); and the Juvenile Diabetes Research Foundation (JDRF) Center for Beta Cell Therapy in Diabetes in Europe, funded by the European Union.

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Diabetes care | Liraglutide

liraglutide key to future growth

Diabetes is a demanding condition. It requires constant attention and measuring of blood sugar levels. And with type 2 diabetes being a progressive disease, too many patients never reach an acceptable level of control of their diabetes. The consequence is debilitating and expensive late complications.

Liraglutide, Novo Nordisk's once-daily human analogue of the naturally occurring hormone Glucagon-Like Peptide-1 (GLP-1), is a compound being developed for the treatment of type 2 diabetes. GLP-1 works by stimulating the release of insulin only when glucose levels become too high, and by decreasing appetite. The effect can be described as enhancing the function of tired or worn-out insulin-producing cells. Liraglutide is being studied as a once-daily product that may be administered any time of day. Because of the mechanism of action, glucose monitoring may not be necessary.

In contrast to some other antidiabetic treatments, liraglutide may also lead to weight loss instead of weight gain. It is being studied for its potential as a therapeutic option in early-stage diabetes.

In 2007, Novo Nordisk concluded phase 3 studies of liraglutide. The LEAD™ programme Liraglutide Effect and Action in Diabetes is the largest and most complex set of clinical trials Novo Nordisk has ever undertaken for a diabetes product. As one of the most important products in Novo Nordisk's pipeline, liraglutide is critical to drive the future growth of the company.

Liraglutide phase 3 programme LEAD (Liraglutide Effect and Action in Diabetes)

3,992

persons participated in Novo Nordisk's LEAD™ phase 3 programme.

300

million people in the world are obese, according to the World Health Organization.

We are very pleased with the clinical results. The phase 3 studies have investigated the use of liraglutide throughout the progressive stages of diabetes: from early diagnosis where oral agents are used to intensified insulin therapy. In these studies, reduction in HbA^{1c} and body weight were measured, says Mads Krogsgaard Thomsen, chief science officer. The level of HbA^{1c} reflects the average blood glucose level over the past two to three months, and a decrease is therefore considered a measure of treatment effect. The American Diabetes Association recommends a treatment goal of HbA_{1c} <7%.

The data, to be submitted for publication in peer-reviewed journals, makes Novo Nordisk confident, that once approved by regulatory bodies, liraglutide has the potential to become an important new treatment option for people with type 2 diabetes. Novo Nordisk hopes to become a leader in the GLP-1 market. Novo Nordisk expects to file for regulatory approval of liraglutide in Europe and the US before the end of the second quarter of 2008.

How GLP-1 works

Liraglutide mimics GLP-1, which is a hormone released in the intestine.

Liraglutide is intended to work on several levers in type 2 diabetes, most importantly increasing beta cell function and leading to improved glucose control, but without the weight gain that is a natural consequence of this change in metabolism. In clinical studies weight loss was generally observed. It

Study objective

Primary endpoint Number of persons Results announced

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LEAD 1 Effect of liraglutide in combination with sulphonylurea (SU) (glimepiride)	HbA _{1c} (26 weeks)	1,041	20 August 2007
LEAD 2 Effect of liraglutide in combination with metformin	HbA _{1c} (26 weeks)	1,091	20 August 2007
LEAD 3 Effect of liraglutide in monotherapy	HbA _{1c} (52 weeks)	746	11 December 2007
LEAD 4 Effect of liraglutide in combination with metformin and TZD (rosiglitazone)	HbA _{1c} (26 weeks)	533	14 September 2007
LEAD 5 Effect of liraglutide in combination with metformin and SU (glimepiride)	HbA _{1c} (26 weeks)	581	21 June 2007

Detailed results from the full LEAD™ programme are expected to be communicated at scientific meetings and in peer-reviewed journals.
More details can be found at novonordisk-trials.com

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The innovation space of GLP-1 fits perfectly with our skill base. GLP-1 and insulin are the two most promising areas in diabetes care be in, and where the most advancement seems possible.

Mads Krogsgaard Thomsen

executive vice president and chief science officer

is believed that the glucose-dependent action, sustained beta cell function and weight loss work together in a virtuous circle, says Peter Kristensen, who as project vice president for liraglutide has overseen the trial programme.

The LEAD™ programme spanned more than 40 countries and included around 4,000 people with type 2 diabetes whose blood glucose was inadequately controlled. The programme is comprised of five randomised, controlled, double-blind studies.

The conclusive study, the results of which were announced in December 2007, indicates that the effects of liraglutide appear to be sustainable after one year's treatment. This is to be further investigated.

Liraglutide studied for obesity treatment

In November 2007, Novo Nordisk announced the clinical results from a double-blind, placebo-controlled phase 2 study of the use of liraglutide for treatment of obesity in people who do not have diabetes. It is aimed at clinically obese people with a Body Mass Index (BMI) above 30.

In the study liraglutide was given once daily over 20 weeks. All doses of liraglutide were seen to reduce body weight. The study also indicated a beneficial effect on systolic blood pressure after treatment with liraglutide, most likely associated with the weight loss.

In order to study the long-term weight reduction of liraglutide treatment, around 85% of all participants in the study volunteered to continue into an open-label extension phase of the study.

Production capacity in place

Obesity a 21st century health crisis

Being overweight and obese significantly increases the risk of developing type 2 diabetes. According to the World Health Organization, at least 300 million people in the world are obese⁹). With numbers such as these, obesity and its related disorders is set to become one of the 21st century's biggest health crises. Already today, more than half the OECD population has a BMI at more than 25, currently applied as the upper level of normal weight.

In the US, 66% of the population is overweight and 33% obese. The global prevalence of overweight adults is projected to increase by 50% over the next 10 years to 1.5 billion people and by 2015 roughly half a billion people will be obese, if the current trend is not reversed.

There is broad consensus among experts and decision-makers that successful control requires collaborative efforts of governments, communities, civil society, healthcare, industry, individuals and other stakeholders.

Clearly, there is considerable consumer demand for safe and effective weight loss medicines without too many unpleasant side effects. Still, there is widespread medical consensus that the first line of intervention to control obesity should be advice on exercise and dietary adjustments. Medicines or surgery should only be considered if this route fails and the individual is at risk of developing medical complications to obesity.

Novo Nordisk's Diabetes 2025 scenarios forecast that, in the future, antiobesity medicines are likely to play a central role similar to today's highly efficacious cholesterol and blood pressure lowering medications, namely as the lead intervention in large populations. However, costs for life-long treatment may affect the prospect of any new obesity-related medicine from achieving widespread use. Certainly, long-term health-economic benefits will affect reimbursement by health management groups.

Future Novo Nordisk antiobesity medications will be developed and marketed to tackle obesity associated with serious health risks. Novo Nordisk will work within the existing consensus and guidelines regarding antiobesity pharmacological interventions, but will strive to better define the obese subjects with a substantial health risk, so treatment can be targeted at those who need it most.

Novo Nordisk believes that diabetes leadership involves taking an active role in the promotion of the value of wellness and healthy eating and exercising campaigns (see p 25).

The making of GLP-1 is quite similar to the production processes required for the production of modern insulins, and Novo Nordisk's production capacity is geared to begin supplying the market once regulatory approval has been obtained. With the company's extensive programme to build global sourcing and optimise production efficiency (see pp 22-23), facilities in Kalundborg, Denmark, are available for a dedicated production of liraglutide.

Looking ahead

As part of the longer-term life-cycle management initiatives supporting the GLP-1 franchise, Novo Nordisk initiated a phase 1 study of a once-weekly human GLP-1 analogue in 2007. Based on Novo Nordisk's protein acylation technology, this compound is designed for treatment with expected administration in a convenient injection device.

With the ambition to also become the leader in the GLP-1 field, we are working actively to secure this position by building up a portfolio of products, says Mads Krosgaard Thomsen.

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Diabetes care | Markets

modern insulins available to more people

With 53% of the total insulin market and 43% of the modern insulin market, both measured by volume, Novo Nordisk is the global market leader. The modern insulin and device portfolios showed continued strong sales growth in 2007.

We offer excellent products and devices, and we put a strong organisation behind it, focusing on delivering results to the people with diabetes using our products. That is our simple recipe for success, says Kåre Schultz, executive vice president and chief of operations. This doesn't mean it is a smooth road ahead. But we have good reason to be confident about our future.

As the market leader, our commitment has been unwavering over time, backed by our products and business approach. We put all our efforts into making sure that what we do truly makes a difference for people with diabetes, says Kåre Schultz.

Levemir® gains momentum

Market performance in 2007 reflected the success of Novo Nordisk's portfolio of modern insulins. Both NovoRapid® and NovoMix® 30 (NovoLog® and NovoLog® Mix 70/30 in the US respectively) consolidated their market positions. In addition, a number of pivotal developments in 2007 helped strengthen the position of Levemir®, the company's long-acting basal insulin – not least its entry into crucial new markets.

Levemir® was launched in Japan in 2007, making Novo Nordisk the only company in Japan to offer a full portfolio of modern insulins. Novo Nordisk has long been the market leader in Japan.

In Europe and the US, where Levemir® was launched in 2004 and 2006 respectively, it is gaining a solid foothold in the basal insulin category. Today, it is marketed in 61 countries worldwide.

53%

was Novo Nordisk's estimated share of the global insulin market (by volume) in 2007.

700

people joined Novo Nordisk's US diabetes care sales team in 2007.

20%

of the world's elderly population has diabetes.

61

countries offer Levemir®, Novo Nordisk's once-daily, soluble, long-acting basal insulin analogue.

At the meeting of the American Diabetes Association in 2007, Novo Nordisk presented detailed results from the Levemir® PREDICTIVE™ clinical trial in the US. This six-month study included 5,604 persons with type 2 diabetes and showed that they were able to reduce their blood sugar level by adjusting their own dosage of Levemir®, compared to dosing adjusted by their primary care physician. This underscores the simplicity of starting insulin therapy with Levemir®.

Once-daily use of Levemir®

In 2007, Novo Nordisk received marketing authorisation from the European Commission for the use of Levemir® once-daily in combination treatment with tablet-based antidiabetics (OADs) for people with type 2 diabetes.

During 2007, a number of publications based on clinical trials, the observational study PREDICTIVE™ and reviews⁹⁾, all supported the fact that once-daily Levemir® is effective in managing glucose levels in type 2 diabetes.

The Weight of the World

The finding from the PREDICTIVE™ study that Levemir® also resulted in less weight gain is attracting attention from healthcare professionals. Historically, insulin treatments have had negative weight implications for patients; an unfortunate side effect which can exacerbate the problems associated with the condition it is intended to improve.

The Weight of the World¹⁰⁾, a review of clinical research, trials and surveys regarding weight in diabetes and its impact, which was conducted by leading diabetes experts, concluded that even a relatively modest weight loss can result in improved glycaemic control, reduce the risk of heart disease and can also increase life expectancy.

United States expanded sales force

Novo Nordisk is the only company in the United States the world's largest pharmaceutical market to offer a complete portfolio of modern insulins. The company

expanded its US diabetes sales force in 2007 with an additional 700 people, bringing the total to around 1,900.

In this fiercely competitive market, Novo Nordisk managed to achieve a 43% share in the modern insulin market (by volume) in 2007, making it the leader, measured by volume. Along with the expanded sales force, more focused selling with greater responsiveness to understanding the needs of customers, particularly primary care physicians, is driving market penetration of Levemir®.

The clinical data from PREDICTIVE^{EM} has strengthened our message to healthcare professionals about the advantages of Levemir® for people with type 2 diabetes, says Camille Lee, vice president, Diabetes Brand Marketing, Novo

Diabetes highlights 2007

Levemir® launched in Japan.

European Commission approves use of **Levemir®** once-daily in combination treatment with tablet-based antidiabetics for people with type 2 diabetes.

European Commission approves **NovoRapid®** for treatment of diabetes in the elderly and in people with renal or hepatic impairment.

NovoLog® takes leadership position in the US.

Once-daily Levemir® gains momentum in the US through PREDICTIVETM 303 results and widened outreach to primary care.

FlexPen® is the most used insulin device in the world.

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The long-acting basal modern insulin Levemir® entered new markets in 2007.

Beatriz de Lourdes Gonçalves from Belo Horizonte, Brazil, has type 1 diabetes.

Nordisk Inc. In 2007, NovoLo® (NovoRapid®) became the leading brand in the rapid-acting category. In addition, Novo Nordisk products have at minimum 80% coverage in the managed care formularies, which are restricted lists of reimbursable medicines. All of these elements put us in a strong position in the US diabetes care market, says Camille Lee.

Europe modern insulin growth

In Europe, Novo Nordisk continued to increase the market share of its modern insulins. This was boosted not only by the Levemir® once-daily approval with OADs, but also the approval in Europe in 2007 of NovoRapid® for the treatment of diabetes in the elderly and in people with renal or hepatic impairment.

Since diabetes is a progressive disease, many older people with diabetes require more intensive insulin therapy over time. According to the International Diabetes Federation (IDF), approximately 20% of the world's elderly population has diabetes, and the figure is increasing steadily.

We have become the European market leader in modern insulins. Our next ambition is to bring the benefit of modern insulins to all people with diabetes in Europe, says Kåre Schultz.

Emerging markets on the move

Novo Nordisk's International Operations (IO) consists of 142 countries that between them generate more than 50% of global GDP growth. These emerging markets are home to more than 85% of the world's population and 80% of all people with diabetes in the world – some 183 million in all. Sales of diabetes care products in the region in 2007 grew by 20% measured in local currencies and by 14% in Danish kroner. China is currently Novo Nordisk's fifth-largest market (see pp

36–37) and is expected to be its second- or third-largest within the next five years. Other key markets are Brazil, Russia, India and Turkey.

International Operations is contributing significantly to creating new growth for Novo Nordisk. Average earnings in the IO countries are still low, but a growing middle class in countries like China, India and Brazil is stimulating demand for modern insulins, says Jesper Høiland,

Leadership in modern insulins is key to realising both our vision and our financial targets.

Kåre Schultz

executive vice president and chief operating officer

senior vice president, International Operations. If you look at the pharmaceutical industry as a whole, analysts anticipate significant growth rates of 10–15% in the emerging markets. Due to our early and sustained presence and our market leadership, Novo Nordisk is in a strong position to capture a large share of that growth.

Japan & Oceania leading the market

With the launch of Levemir® in 2007, Novo Nordisk is the only company in Japan offering a full portfolio of modern insulins. Novo Nordisk has long been the market leader in Japan and had 73% of the insulin market (by volume) in 2007. Japan, with a population of 130 million people, is the world's second-largest pharmaceutical market. Diabetes is a large and growing public health issue. It is estimated that diabetes currently affects more than 16 million people in Japan: 8 million have diabetes or glucose levels indicating diabetes, and 8.8 million have prediabetes.

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Diabetes care | Emerging markets

tackling diabetes on all fronts in China

China's rapid economic transformation poses major challenges to society, and one of these is diabetes. A growing middle class is adopting Western lifestyles with too little exercise and diets high in saturated fat proven risk factors for diabetes and other chronic diseases. Over weight and obesity are on the rise, even among children and youth. Globalisation, an ageing population and urbanisation are contributing factors to the health crisis.

Nearly 40 million Chinese are estimated to have diabetes, the second-highest number of people with diabetes in any single country after India. As a sign that the problem will get worse before it gets better, 64 million Chinese have impaired glucose tolerance, or prediabetes. At this rate, the International Diabetes Federation (IDF) predicts that the number of adults with diabetes in China will reach 46 million by 2025, or 12% of the worldwide figure.

This is expected to have a major impact on China's economy. The World Health Organization predicts that by 2015, China's economy will experience a net loss in national income from diabetes and cardiovascular disease of 558 billion US dollars.

Early, long-term presence

In 1994, Novo Nordisk began to invest in building a strong presence in China. Today, Novo Nordisk is the market leader in the insulin market and is also among the fastest-growing pharmaceutical companies in China.

Achieving market leadership is the result of a concerted

80%

of deaths in China are attributable to chronic diseases, according to the Chinese Centre for Disease Control and Prevention.

2

million Chinese migrate every month from rural areas to coastal cities

effort to put diabetes on the agenda and to present Novo Nordisk as having better products and the most extensive knowledge of diabetes. The commitment to change diabetes, with a focus on education, training and public awareness, has made Novo Nordisk a trusted partner in China.

Because the causes of the diabetes pandemic in China are so complex, Novo Nordisk, together with key opinion-leaders within diabetes, launched a study in 2007 to examine the socio-economic impact of the condition. This study will look at the cost and benefit of improved diabetes care using evidence-based research, and will contribute to providing data that can help build a better understanding of the dynamics of diabetes.

Staying focused

Novo Nordisk China employs 1,250 people, has a production facility in Tianjin and a thriving R&D centre the first R&D centre established in China by an international pharmaceutical company. The Tianjin plant has been expanding its production capacity by around 40% a year.

Novo Nordisk is also expanding its sales force in China, extending its outreach beyond the biggest cities into many smaller cities. Distribution and logistics are a challenge in a country as vast as China. Price negotiation, which takes place at national, provincial and even city level, is another challenge.

Staying in the lead requires constant focus and continued investments. There is fierce competition for a share of the growing diabetes market, and Novo Nordisk intends to sus-

Investing in scientific

molecular biology, protein chemistry and cell biology, the R&D centre plays a key role in Novo Nordisk's overall R&D strategy. China today is moving

ment in 2007 establishing a joint research foundation in China.

The aim of the Novo Nordisk Chinese Academy of Science

innovation

Novo Nordisk's R&D centre in China is located in Zhongguancun Life Science Park just outside Beijing. The centre has been developing and expanding since 2002. As an integrated part of Novo Nordisk's Biopharmaceuticals Research Unit, the 45 employees work closely with R&D colleagues in Denmark. With a strong technology platform within the areas of

towards a very innovative culture with lots of opportunity and resources within life sciences, says Baoping Wang, head of the centre. He expects that the centre will soon be able to identify a first new drug discovery project of its own.

As a further recognition that the company's scientific innovation will focus increasingly on China in future years, Novo Nordisk and the Chinese Academy of Sciences signed an agree-

Research Foundation is to fund or co-fund activities of common interest within the fields of diabetes and biopharmaceuticals, including related disciplines and technologies such as protein chemistry, immunology, inflammation, toxicology, endocrinology and drug delivery. Novo Nordisk is funding 2 million US dollars in support of research into diabetes and biopharmaceuticals.

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Nearly 40 million people in China are estimated to have diabetes.

The China Health Star Search is a contest for people with diabetes. In quizzes and presentations they compete on knowledge about how to reach treatment targets.

With our promise of changing diabetes, we believe that we are making a difference. That's why many people join us and why many people stay.

Ron Christie
general manager, China

tain its market leadership by building the market for the company's modern insulins, maintaining a strong sales organisation and relentlessly making the case for earlier detection and improved treatment of diabetes.

Novo Nordisk will continue to expand its activities in China. The current number of employees is likely to more than double within the next five years, and Ron Christie, Novo Nordisk's general manager in China, is confident of the future direction.

We believe that within five years China will represent the second- or third-largest market in Novo Nordisk, he says.

Education is the key

The first step to improving diagnosis and treatment is education. It is estimated that only 25% of people with diabetes in China are diagnosed and treated; only about 40,000 doctors in the country of 1.3 billion people are trained in diabetes care. In 2002, Novo Nordisk established the National Diabetes Management programme with the Chinese Ministry of Health. This led, among other things, to the creation of the first-ever national guidelines for the diagnosis and treatment of diabetes and the education of doctors in 300 cities. Through Novo Nordisk education programmes more than 150,000 healthcare professionals in China have received training in diabetes care since 2002.

The Novo Nordisk China Health Star Search raised public awareness by involving more than 40,000 people with diabetes in a contest to share their positive stories about living with diabetes. It has run in 43 cities and through media coverage reached out to millions of people. Other initiatives include a Changing Diabetes® bus that will cover 100 cities over a three-year period and a patient network of some 600,000 members.

Ongoing medical reform

Access to national healthcare insurance has been a barrier to improved care in China. Today, only 12% of Chinese have comprehensive medical healthcare insurance. This is set to change in coming years, with the Chinese government pledging to establish a medical service system covering all urban and rural Chinese by 2010. In 2007, the Chinese government extended national health insurance coverage to 32 million migrant workers. As health insurance spreads and more Chinese people get access to advanced pharmaceutical products, the market for diabetes care is set to grow at an even faster pace.

Investment in people

Competition for market share as well as employees and knowledge is fierce. To help retain talent, Novo Nordisk prioritises the creation of attractive career opportunities, but even more importantly, shared values and a corporate culture underpin the Novo Nordisk Way of Management.

In 2007, the Novo Nordisk Peking University International MBA programme was established at the prestigious Peking University, offering Novo Nordisk managers in China a tailored programme to develop business knowledge, strategic thinking and leadership. With our promise of changing diabetes, we believe that we are making a difference. That's why many people join us and why many people stay, says Ron Christie.

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Enea Atroce is a nine-year-old from Switzerland who has haemophilia.

meeting needs in haemophilia

acquired haemophilia and other rare bleeding disorders such as Glanzmann's thrombasthenia (approved in 82 countries) and FVII deficiency.

Sustaining the lead in haemophilia

NovoSeven® is positioned as the first-line treatment for bleedings in haemophilia patients with inhibitors because of its efficacy, safety profile and onset of action. Further improvements in terms of formulation and dosing have been made, making NovoSeven® even more convenient, while at the same time maintaining efficacy and safety profiles. With the main NovoSeven® patents due to expire in November 2010 (in the US) and February 2011 (in the EU), Novo Nordisk is placing high priority on sustaining its haemophilia inhibitor portfolio with new, superior, patent-protected molecules. With the portfolio advancements during 2007, Novo Nordisk is progressing well. In 2007, NovoSeven® sales exceeded one billion US dollars, thereby reaching blockbuster status. NovoSeven® is still expected to show growth, albeit at a lower pace, notes Jesper Brandgaard, chief financial officer, Novo Nordisk.

Just one infusion

In 2007, NovoSeven® was launched in Europe for single-dose use (270 µg/kg), making administration of NovoSeven® more convenient for mild to moderate bleedings.

The approval means that NovoSeven® can be administered with just one infusion to treat a bleeding episode. The single dose will help haemophilia patients with inhibitors to cope with the disruption that multiple intravenous infusions cause to their lives. In addition, Novo Nordisk has filed for regulatory approval of a temperature-stable version of NovoSeven® in Europe as well as in the US. A temperature-stable product is expected to deliver significant patient benefits, including ease of access to treatment irrespective of where the patient expe-

With next-generation successors to NovoSeven® in the pipeline and several new molecules Novo Nordisk demonstrates its commitment to offering improved treatment options for people with haemophilia.

1st

haemostasis research laboratory in the US dedicated to

A decade ago, recombinant factor VIIa (rFVIIa), the active ingredient in NovoSeven®, dramatically changed the lives of two boys with haemophilia A who had inhibitors (antibodies) to coagulation factor VIII and could not control their bleedings. Today, NovoSeven® is the leading treatment for people with congenital haemophilia with inhibitors, about 3,500 people worldwide. Novo Nordisk is a leader in developing therapies to stop or reduce bleeding episodes in haemophilia patients with inhibitors. Haemophilia is a disabling, inherited bleeding disorder that has a tremendous medical, social, psychological and financial impact upon patients, their families and society. There remain many unmet needs in this group of people.

It is our intention to develop a range of product improvements for this patient population to address serious unmet medical needs, says Anne Prener, corporate vice president, NovoSeven® Management.

NovoSeven® is used intravenously in the acute treatment of bleeding episodes and for the prevention of bleeding during surgery or invasive procedures in patients with congenital haemophilia with inhibitors to coagulation factors VIII or IX. In addition, it has been approved for use in patients with

life-threatening bleeding is
Novo Nordisk's
research facility
in New
Brunswick,
New Jersey,
US.

1

billion US
dollars. When
sales of
NovoSeven®
hit this figure in
June 2007, it
became a
block-buster.

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riences a bleed, since the product will become portable without the need for refrigeration.

Next-generation compounds

To be able to offer better treatment and protect patent rights, Novo Nordisk is developing a class of future-generation rFVIIa compounds with improved properties. In 2007, Novo Nordisk initiated a phase 2 study of the short-acting rFVIIa analogue (NN1731). The study is expected to include around 75 haemophilia patients with inhibitors and will evaluate both safety and efficacy.

In June, Novo Nordisk initiated a phase 1 study of GlycoPEGylated factor VIIa, a long-acting version of coagulation factor VIIa (recombinant) to determine if it will provide long-term prevention of bleeding episodes.

A subcutaneous formulation of rFVIIa is being studied for the treatment of haemophilia patients with inhibitors.

Novo Nordisk is also actively pursuing the development of several new molecules for the treatment of haemophilia patients with inhibitors. The company has a pipeline of clotting factors destined to be used in haemophilia and other congenital bleeding disorders.

NovoSeven® in critical bleedings

Novo Nordisk is currently exploring the potential of NovoSeven® for managing critical bleedings in selected areas where rFVIIa can potentially make a clinical difference to patient outcomes. While several projects in the pipeline show promise, research in this area suffered a setback in 2007 when Novo Nordisk decided not to pursue regulatory approval for NovoSeven® in the treatment of people suffering from bleeding in the brain, also known as intracerebral haemorrhage, or ICH. Preliminary results of a phase 3 trial confirmed the safety profile and showed that NovoSeven® reduces bleeding in the brain, but does not improve long-term clinical outcomes.

Consequently, Novo Nordisk has discontinued its ICH development

Novo Nordisk is committed to building leadership and providing therapeutic improvements for people with haemophilia.

Anne Prener
corporate vice president, NovoSeven® Management

Outreach projects that work

Lack of access to haemophilia care is particularly daunting in the developing part of the world, where this disease is not a priority. It is estimated that the disorder affects some 600,000 people globally, of whom an estimated two thirds live in developing countries. Haemophilia only affects males, and about half of the patients may require treatment for bleeding episodes several times a month. But today, only a small minority in the developed world – some 30,000 – receive proper treatment.

In many developing countries, young boys with haemophilia risk spontaneous and severe joint, muscle and internal bleedings with complications such as chronic joint disease and crippling. Without proper diagnosis and care they may die at an early age.

The Novo Nordisk Haemophilia Foundation (NNHF) was established in 2005 as an independent, non-profit entity to address the significant need to improve treatment of people with haemophilia in the developing world. It funds programmes to improve haemophilia care and treatment and to raise awareness by focusing on capacity-building, patient education, diagnostic programmes and registries in the developing world. With an annual grant from Novo Nordisk of approximately 10 million Danish kroner it

programme. Data from the phase 3 clinical trial, as well as the extensive analyses of the study results that have been conducted, have been submitted for publication in peer-reviewed journals. With regard to safety, study results were in line with the established safety profile of NovoSeven®. The results came as a disappointment, particularly given the encouraging results from the phase 2 trial. We hoped that NovoSeven® could become a treatment for the people who suffer from ICH, and for whom no effective medical treatment exists, says Lars Rebién Sørensen, president and chief executive officer, Novo Nordisk.

NovoSeven® is being studied in a phase 3 trial for treatment of critical bleeding in trauma patients. In a completed phase 2b study, NovoSeven® was demonstrated to reduce transfusion needs in patients with severe blunt trauma. A phase 2 safety study of the use of NovoSeven® in cardiac surgery has been completed. The study confirmed the safety profile known from the cardiac surgery setting and from other studies of NovoSeven® outside of haemophilia with inhibitors. While the primary aim of this trial was safety, the trial also demonstrated the biologic haemostatic effect of NovoSeven®.

currently supports 21 projects in South America, North Africa, Asia, the Middle East and Eastern Europe in partnership with healthcare authorities, medical professionals, NGOs and patient organisations.

The first project to be completed provides a good example. In Uzbekistan, a relatively small investment from the NNHF led to training of doctors and nurses and the creation of a diagnostic facility, resulting in a national screening programme and registry. A local organisation supported the project and funded a new centre for the treatment of bleeding disorders.

It is estimated that the NNHF's work impacts the lives of about 20,000 people with haemophilia in the countries where it has projects.

We have a social responsibility to reach out to people whose survival and quality of life depend on proper detection, diagnosis and treatment, says Stephen Robinson, general manager, the Novo Nordisk Haemophilia Foundation.

See more at nnhf.org

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Biopharmaceuticals | Other therapy areas

expanding the range of biopharmaceuticals

Novo Nordisk's strategy to expand its biopharmaceuticals business is two-pronged. While seeking additional uses for existing products, the company also explores potential new therapies for neglected medical conditions.

In 2007, this strategy delivered several successes. These included the approval of new indications for the company's human growth hormone product Norditropin®, new product launches within hormone replacement therapy, and a new pilot production facility to spur faster advancement in areas of unmet needs within inflammation. The growth hormone business continued in 2007 to steadily penetrate the market, including hard-won success in the competitive US market. With a global market share of approximately 23% in terms of value, Novo Nordisk ranks second worldwide in growth hormones. In 2007, the company made significant progress towards taking top place.

New indications for Norditropin®

There is a number of very small patient groups with few, if any, medical options. For these people, the development of new treatments is vital. Such was the case with NovoSeven®, which was developed for a population of 3,500 individuals with congenital haemophilia (see p 38). To encourage the development of treatment for rare disorders that may not otherwise be commercially viable, the US Food and Drug Administration (FDA) designates drugs that treat fewer than 200,000 US patients with an orphan drug status. Having orphan drug status in the US means that no other company can promote this new indication for a seven-year period. This offers a win-win proposition for patients, companies and society.

In June 2007, Norditropin® received the designation along with FDA approval for use of Norditropin® in the treatment of short stature associated with Noonan syndrome.

Noonan syndrome is defined as an autosomal dominant genetic syndrome commonly characterised by short stature, congenital heart defects and characteristic facial features. It is classified as a rare

80%

of children with Noonan syndrome have significantly short stature.

20%

is the annual mortality rate for US adults in chronic dialysis.

23%

of the global market for growth hormones (in value) makes Novo Nordisk number two in this market.

2008

is the year when Novo Nordisk's first projects to treat autoimmune diseases enter clinical trials

cians in the US the option of dosing up to higher levels than previously. Turner syndrome is a rare chromosomal condition caused by complete or partial absence of the second sex chromosome (X chromosome) in females. This occurs in approximately one in 2,500 live female births. Short stature is the most common feature associated with Turner syndrome and affects the majority of patients.

Children born with growth disorders that can be treated with growth hormone benefit not only in terms of physical growth but also in terms of their quality of life and well-being, according to data¹⁰⁾ from Novo Nordisk's group for Global Health Economics and Outcomes Research.

New hope for dialysis patients

Norditropin® may also have potential for the treatment of complications associated with adult patients in chronic dialysis (APCD). In 2007, Novo Nordisk initiated a phase 3 trial encompassing about 2,500 patients worldwide.

This double-blind, placebo-controlled study evaluates the impact of growth hormone treatment on the survival rate of APCD patients following two years treatment. Growth hormone treatment is being studied for its ability to increase the patients' lean body mass and level of serum albumin, which have been shown to be leading indicators for survival in APCD. The study is expected to take around three years to complete.

The annual mortality rate for adult patients in chronic dialysis in the US is a discouraging 20% (17% in Europe and 9-10% in Japan). A number of patients in chronic dialysis suffer from serious malnutrition and frequent inflammation that no available treatment has been able to remedy. This malnutrition-inflammation state has been closely associated with a higher death rate.

Worldwide, more than one million people with advanced kidney disease have to go to hospital several times a week for dialysis. A few of these people will receive kidney transplants, but most will be in dialysis for the rest of their lives. This possible new use of growth hormone would address a significant unmet medical need for thousands of patients. Novo

condition, with a population of less than 200,000 US patients. Up to 80% of children with Noonan syndrome suffer from significantly short stature, with few treatment options available to help their physical growth.

The area of paediatric growth hormone treatment is one where approval of new indications is rare. In fact, the approval of Norditropin® is the first new indication approval in six years within this field.

Helping girls with Turner syndrome

In September 2007, Norditropin® also received approval from the FDA for the treatment of children with short stature associated with Turner syndrome. This FDA approval gives physi-

Nordisk is currently the only company pursuing this indication.

Lower-dose HRT products

Sales of Novo Nordisk hormone replacement therapy (HRT) products showed solid growth in 2007. This is in contrast to the situation following the publication of results from the Women's Health Initiative in 2002, when sales of HRT products in general, including Novo Nordisk products, declined.

Novo Nordisk's position is that HRT should be prescribed at the lowest effective dose and for the shortest duration consistent with treatment goals and risks for the individual woman. To help meet patient needs, the company is complementing its

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An investment of 350 million Danish kroner Novo Nordisk's new pilot plant in Hillerød, Denmark.

Only girls have Turner syndrome.

existing portfolio of HRT products with lower-dose versions of Activelle® (Activella® in the US, where it was launched in 2007) and Vagifem®.

New pilot plant

Novo Nordisk is using its existing knowledge of proteins and autoimmune diseases to build a presence within inflammation.

In 2007, Novo Nordisk boosted its potential to produce proteins for investigational clinical trials with the inauguration of a new pilot plant in Hillerød, Denmark, which over the next few years will double the company's capacity for producing investigational compounds for clinical trials and enable Novo Nordisk to move new biopharmaceutical candidates into its pipeline significantly faster. The new plant, a 350 million Danish kroner investment, will be used to develop and manufacture new biopharmaceutical products based on proteins produced in mammalian cells for use in haemostasis and inflammation.

Progress in new areas

Novo Nordisk is pursuing treatment of autoimmune inflammatory diseases such as rheumatoid arthritis, psoriasis, inflammatory bowel disease and systemic lupus erythematosus (SLE) because of large unmet medical needs for which the company's solid foundation of existing competences in proteins and delivery devices could offer therapeutic solutions. In type 1 diabetes, the body's immune system destroys the insulin-producing cells in the pancreas, and similar processes are the cause of other autoimmune diseases. The first projects to treat autoimmune diseases are ready to enter clinical trials during 2008.

The research and development strategy for the emerging biophar-

maceuticals area has been updated. Based on an evaluation of the general competence level required, the level of investments needed and the likelihood of success, Novo Nordisk has decided to increase and focus activities on inflammatory diseases. As a consequence, research and development activities within oncology will be terminated and resources applied to the growing inflammation portfolio. Existing oncology proj-

We are intent on addressing significant unmet medical needs wherever we have the competence to develop solutions.

Lars Rebien Sørensen
president and chief executive officer

ects, including the IL-21 programme and the anti-KIR project, are expected to be outlicensed. The ongoing development activities for these two projects will continue while discussions with potential new partners are taking place. The first two compounds targeting inflammatory diseases are expected to enter clinical development in 2008.

Immunotherapy is an area where Novo Nordisk is working closely with partners. Partnerships can stimulate innovation for the benefit of patients and bridge gaps in fields where Novo Nordisk sees room to pursue business opportunities. In 2007, the company established a new website to set out the company's assets as a preferred biotech partner for firms with complementary skills.

See novonordisk.com/science. Click: [Partnering](#)

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corporate governance

Corporate governance refers to the way a company is managed and the major principles and frameworks that regulate interaction between the company's managerial bodies, its owners and other stakeholders.

Novo Nordisk's values are consistent with principles of good governance. The Novo Nordisk Way of Management forms the values-based governance framework for the company and is an integrated part of the company's corporate governance (see pp 6-7).

Governance structure

The company has a two-tier board structure consisting of the Board of Directors and Executive Management. The two bodies are separate, and no person serves as a member of both.

Shareholder rights

Novo Nordisk's share capital is divided between A shares and B shares. All A shares are held by Novo A/S, a Danish public limited liability company wholly-owned by the Novo Nordisk Foundation, which is a private, profit-making, self-governing institution. The B shares are traded on the stock exchanges in Copenhagen and London, and in the form of ADRs on the New York Stock Exchange. Each A share carries 10 votes, whereas each B share carries one vote (see p 50).

Special rights attached to A shares include preemptive subscription rights in case of an increase of the A share capital, and preemptive purchase rights in case of a sale of A shares and priority dividend if dividend is below 0.5%, while B shares take priority for dividend between 0.5% and 5% and B shares take priority for winding-up proceedings.

Novo Nordisk is of the opinion that the current share and ownership structure is appropriate and preferable for the long-term development

of the company. A study¹¹⁾ commissioned by the European Commission concluded in 2007 that control-enhancing mechanisms such as the A and B share structure are allowed in all European countries investigated and that they do not have a negative impact on shareholder value creation. Novo Nordisk believes that the transparency inherent in its share structure is to the benefit of shareholders, who know in advance the relative voting power of each share class. The current differentiation of voting rights cannot be revoked as this would violate the articles of association of the Foundation, which have been approved by the Danish authorities.

Novo Nordisk is not aware of the existence of any agreements between shareholders on the exercise of votes or control.

Shareholders have the ultimate authority over the company, and exercise their right to make decisions regarding Novo Nordisk at general meetings, either in person or by proxy. Resolutions can be passed by a simple majority, while resolutions to amend the articles are subject to adoption by at least two thirds of votes cast and capital represented unless stricter requirements are imposed by Danish company law. The annual general meeting approves the annual report and any amendments to the articles. The general meeting elects 4-10 directors plus the auditor. All shareholders may, no later than 1 February, request that proposals for resolution be included on the agenda. All shareholders may also ask questions at the general meetings. Simultaneous interpretation between English and Danish is available, and the meeting is webcast live.

The Board of Directors

On behalf of the shareholders, the Board determines the overall strategy and actively contributes to developing the company as a focused global pharmaceutical company. It supervises Executive Management in its decisions and operations. The Board may issue new shares or buy back shares in accordance with authorisations granted by the general meeting and recorded in the minutes.

The guiding principle in composing the Board is that it should comprise individuals whose particular knowledge and experience enables the Board as a whole to attend to the interests of shareholders, employees and other stakeholders.

New board members undergo an induction programme equivalent

Corporate governance benchmark 2007

In 2007, Novo Nordisk commissioned ISS Corporate Services Inc. (ISS) to appraise the company's corporate governance practices against those of its national, European and US peers as well as international best practice standards.

The ISS study confirmed Novo Nordisk's strong performance in its corporate governance disclosure practice. It also provided compelling evidence of Novo Nordisk's firm commitment to good corporate governance and to the maximisation of shareholder value.

ISS also revealed areas where Novo Nordisk could consider adjustments. Some adjustments have already been implemented and others will be considered in coming years.

Novo Nordisk remains committed to the general principles of good corporate governance and aims to enhance its culture so as to foster these principles at every level of the organisation.

One recommendation that will be put to the Annual General Meeting 2008 concerns an adjustment of the threshold for calling an extraordinary general meeting. So as to bring this procedure into line with best practice, it is proposed that the threshold be reduced from the current 10% of total share capital to 5%.

This would, naturally, simplify the process of calling an extraordinary general meeting and would give shareholders greater voice.

Another recommendation in the ISS report, which will also be put to the 2008 Annual General Meeting, concerns the Board's standing mandate to increase the share capital. Best practice in this regard is that a board's ability to issue B shares without preemptive subscription rights for current B shareholders is limited to a maximum of 20% of the share capital. Novo Nordisk's Board currently has the right to issue B shares without preemptive subscription rights to a value corresponding to 34.1% of the share capital. The proposal is to reduce this to approximately 20%.

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Shareholder information | Corporate governance

to two full days during their first year on the board and subsequently participate in educational activities as required.

The Board has 11 members, of whom seven are elected by shareholders at general meetings. Shareholder-elected board members serve a one-year term and can be re-elected at the general meeting. Board members must retire at the first general meeting after reaching the age of 70. A proposal for nomination of shareholder-elected board members is presented by the Chairmanship to the Board taking into account required competences and the result of the self-assessment process. In nominating candidates, the Chairmanship seeks to achieve a balance

Transparency, both in terms of corporate governance practices and the risk management process, should be viewed as a precondition for retaining shareholder confidence.

Jesper Brandgaard

executive vice president and chief financial officer

between renewal and continuity. Executive search has helped identify board members who meet such criteria.

Four of the shareholder-elected board members are independent as defined by the Danish Corporate Governance Recommendations, while three shareholder-elected board members are related to the majority shareholder through board or executive positions, and two of these have also previously been executives in Novo Nordisk (see pp 46-47).

Under Danish law, Novo Nordisk employees in Denmark are entitled to be represented by half of the total number of board members elected at the general meeting. Thus, in 2006, employees elected four board members from among themselves for a four-year term. Board members elected by the employees have the same rights, duties and responsibilities as shareholder-elected board members.

The Board has appointed a research & development facilitator to assist the Board and Executive Management in preparing the Board's discussions in the R&D area. The key tasks are reviewing R&D strategies

and evaluating the competitiveness of the R&D organisation, processes and projects.

Self-assessment

The Board conducts an annual self-assessment procedure to improve the performance of the Board and its cooperation with Executive Management. This process is directed by the Chairman and may be facilitated by an external consultant. Written questionnaires form the basis for the process, which evaluates whether each board member and executive participates actively in board discussions and contributes with independent judgement. It is further assessed whether the board member is inspirational and whether the environment encourages open discussion at board meetings. The Audit Committee also conducts an annual self-assessment based on written questionnaires. The performance of each executive is continuously assessed by the Board, and once a year the Chairman also conducts a formal interview with each executive.

Board meetings

The Board ordinarily meets seven times a year, including a strategic session over two to three days. In 2007, the Board met eight times and all board members attended all board meetings and the Annual General Meeting, with the exception of one member who was absent on one occasion. By means of a fixed annual calendar, the Board ensures that it addresses its main tasks in a timely manner. With the exception of agenda items reserved for the Board's internal discussion at each meeting, executives attend and may speak, without voting rights, at board meetings to ensure that the Board is adequately informed of the company's operations. Executives' regular feedback from meetings with investors allows board members an insight into major shareholders' views of Novo Nordisk.

Chairmanship

A chairman and a vice-chairman elected by the Board from among its members form the Chairmanship of the Board. They held eight meetings in 2007. The Chairmanship carries out administrative tasks, such as planning board meetings to ensure a balance between overall strat-

The Novo Nordisk model for corporate governance

Corporate governance codes and practices

Novo Nordisk is in compliance with the Danish Corporate Governance Recommendations and is as a foreign-listed issuer in general compliance with the corporate governance standards of the stock exchanges in London and New York, where the Novo Nordisk B shares and ADRs respectively, are listed:

OMX Nordic Exchange Copenhagen

Danish Corporate Governance
Recommendations (2005)

New York Stock Exchange

Corporate Governance Standards (2006)

London Stock Exchange

The Combined Code (2006)

The applicable codes and a detailed review of Novo Nordisk's compliance are available at novonordisk.com/about_us.

Click: [Corporate_governance/compliance](#)

The Novo Nordisk corporate governance model sets the direction and is the framework within which the company is managed (see also pp 6-7).

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Shareholder information | Corporate governance and executive remuneration

egy-setting and financial and managerial supervision of the company. It also reviews the fixed asset investment portfolio. Other tasks include recommending the remuneration of directors and executives and suggesting candidates for election by the general meeting. In practice, the Chairmanship has the role and responsibility of a nomination committee and a remuneration committee.

Audit Committee

The Audit Committee has three members elected by the Board from among its members. All members qualify as independent as defined by the US Securities and Exchange Commission (SEC). One member is designated as chairman and two members are designated as Audit Committee financial experts. One member is not regarded as independent under the Danish Corporate Governance Recommendations. In 2007, the Audit Committee held four meetings and all members participated in all meetings.

The Audit Committee assists the Board with oversight of a) the external auditor, b) the internal auditors, c) the procedure for handling complaints regarding accounting, internal controls, auditing or financial reporting matters (whistleblower function), d) the accounting policies and e) internal controls systems. The Audit Committee also undertakes

a post-completion review of fixed asset investments previously approved by the Board

Executive Management

Executive Management is responsible for the day-to-day management of the company. It consists of the president and chief executive officer, and four other executives (see p 48).

Executive Management s responsibilities include organisation of the company as well as allocation of resources, determination and imple-mentation of strategies and policies, direction-setting and ensuring timely reporting and provision of information to the Board and the stakeholders of Novo Nordisk. Executive Management meets regularly and at least once a month. The Board appoints Executive Management and determines its remuneration. The Chairmanship reviews the per-formance of the executives. As part of the Organisational Audit process the Chairmanship identifies successors to executives and presents the names of such candidates to the Board for approval.

Assurance

External audit and assurance The annual report and the internal

executive remuneration

Novo Nordisk s remuneration policy for its Board of Directors and Executive Management covers both fixed and incentive-based payment. It aims to attract, retain and motivate board members and executives.

Remuneration levels are designed to be competitive and to align the interests of the board members and executives with those of the shareholders. In light of recent changes in Danish legislation, Novo Nordisk will present its guidelines for incentive-based remuneration for approval at the Annual General Meeting 2008.

Board members

Remuneration of the Board of Directors is aligned with other major Danish companies, and the Board regularly reviews board fees based on recommendations from the Chairmanship. See board members fees for the year 2007 on p 81.

The remuneration of the board members is approved by the annual general meeting in connection with the approval of the annual report. Changes in the board fees will be announced at a general meeting in advance of being presented for approval.

Each board member receives a fixed fee per year. Ordinary board members receive a fixed amount (the base fee) while the Chairmanship receives a multiplier thereof: the chairman receives 2.5 times the base fee and the vice-chairman 1.5 times.

Service on the Audit Committee entitles members to additional payment: the Audit Committee chairman receives 1.25 times the base fee and Audit Committee members receive 0.5 times.

Individual board members may take on specific ad hoc tasks outside the normal duties assigned by the Board. In such cases the Board determines a fixed fee for the work.

Expenses, such as travel and accommodation in relation to board meetings as well as relevant training, are reimbursed. Board members are not offered stock options, warrants or other incentive schemes.

Executives

Executive remuneration is proposed by the Chairmanship and subsequently approved by the Board. See executive pay for 2007 on p 81.

Levels are evaluated annually against a Danish benchmark of large companies with international activities. This information is supplemented by information on remuneration levels for similar positions in the international pharmaceutical industry. To ensure comparability, executive positions are evaluated in accordance with an international position evaluation system which, among other parameters, includes and reflects the development of the company size measured in terms of company revenue and number of employees.

The remuneration package consists of a fixed base salary, a short-term cash bonus, a long-term share-based incentive, pensions and non-monetary benefits. For executives being expatriated at the request of the company, the remuneration package is based on current Danish remuneration levels, including pension entitlements, while a specific expatriation package is added for the period of expatriation.

The short-term incentive programme may result in a maximum payout per year equal to four months fixed base salary plus pension contribution. The long-term incentive programme may result in a maximum grant per year equal to eight months fixed base salary plus pension contribution. Consequently, the aggregate maximum amount that may be granted as incentives for a given year is equal to 12 months base salary plus pension contribution.

Fixed base salary

The fixed base salary for each executive accounts for between 40% and 60% of the total value of the remuneration package.

Short-term incentive programme

The short-term incentive programme consists of a cash bonus that is linked to the achievement of a number of predefined functional and in-

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controls over financial reporting processes are audited by an external auditor elected by the annual general meeting. The auditor acts in the interest of the shareholders, as well as the public (see auditor's report p 114). The auditor reports any significant findings regarding accounting matters and any significant internal control deficiencies via the Audit Committee to the Board and in the auditor's long-form report.

Furthermore, Novo Nordisk voluntarily includes an auditor assurance report for non-financial reporting in its annual report (see p115).

Internal audit

The internal audit function provides independent and objective assurance primarily within internal control and governance. To ensure that the function works independently of management, its charter, audit plan and budget are approved by the Audit Committee. The head of internal audit is appointed by and reports to the Audit Committee.

Risk management

Executive Management is responsible for the risk management process, including risk identification, assessment of likelihood and potential impact, and initiation of mitigating actions.

Assessing and articulating risks, whether financial or reputational, can improve decision-making. Novo Nordisk has developed an integrated and systematic risk reporting approach. To simplify the process it is aligned with existing reporting and recurs on a quarterly basis. It is designed to ensure that key business risks are identified, assessed and reported to Novo Nordisk's Executive Management and Board of Directors (see p 9).

Internal control

Novo Nordisk is in compliance with the Sarbanes Oxley Act section 404, which requires detailed documentation of the design and operation of financial reporting processes. Novo Nordisk must ensure that there are no material weaknesses in the internal controls that could lead to a material misstatement in its financial reporting. The company's conclusion and the auditor's evaluation of these processes are included in its Form 20-F filing to the US Securities and Exchange Commission.

See a description of other assurance mechanisms on pp 6-7.

dividual business targets for each executive. The targets for the chief executive officer are fixed by the chairman of the Board while the targets for the executive vice presidents are fixed by the chief executive officer. The chairman of the Board evaluates the degree of target achievement for each executive, and cash bonuses for a financial year if any are paid at the beginning of the subsequent financial year.

Long-term incentive programme

Each year in January the Board decides whether or not to establish a long-term incentive programme for that calendar year.

The long-term incentive programme is based on an annual calculation of shareholder value creation as compared to the budgeted performance for the year.

In line with Novo Nordisk's long-term financial targets, the calculation of shareholder value creation is based on reported operating profit after tax reduced by a WACC-based (weighted average cost of capital) return requirement on average invested capital.

A proportion of the calculated shareholder value creation is allocated to a joint pool for the participants, which in addition to Executive Management includes the other members of the Senior Management Board.

For executives the joint pool operates with a yearly maximum allocation per participant equal to eight months' fixed base salary plus pension contribution.

The joint pool may, subject to the Board's assessment, be reduced in the event of a lower than planned performance in significant research and development projects and key sustainability projects. Targets for non-financial performance related to sustainability and research and development projects may include achievement of certain milestones within set dates.

Once the joint pool has been approved by the Board, the total cash amount is converted into Novo Nordisk B shares at market

price. The market price is calculated as the average trading price for Novo Nordisk B shares on the OMX Nordic Exchange Copenhagen in the open trading window following the release of financial results for the year prior to the bonus year.

The shares in the joint pool are allocated to the participants on a

pro rata basis: the chief executive officer participates with three units, executive vice presidents participate with two units each and other members of the Senior Management Board participate with one unit each. The shares in the joint pool for a given year are locked up for three years before they are transferred to the participants. Upon resignation during the lock-up period by a participant, the shares will remain in the joint pool to the benefit of the other participants.

In the lock-up period, the Board may remove shares from the joint pool in the event of lower than planned value creation in subsequent years if, for example, the economic profit falls below a predefined threshold compared to the budget for a particular year.

In the lock-up period the value of the joint pool will change dependent upon the development in the share price, and consequently the interests of the participants, including the members of Executive Management, are aligned with those of the shareholders.

Pension

The pension contribution is between 25% and 30% of the fixed base salary including bonus.

Non-monetary benefits

Non-monetary benefits such as company car, phone etc are negotiated with each executive individually.

Severance payment

In addition to their notice period executives are entitled, in the event of termination, whether by Novo Nordisk or by the individual due to a merger, acquisition or takeover of Novo Nordisk, to a severance payment of 36 months fixed base salary plus pension contribution. In the event of termination by Novo Nordisk for other reasons, the severance payment is three months fixed base salary plus pension contribution per year of employment as an executive, but in no event less than 12 and no more than 36 months fixed base salary plus pension contribution.

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Sten Scheibye

Chairman of the Board of Directors

Sten Scheibye is chairman of the Board of Directors of Novo Nordisk A/S. Since 1995, he has been president and CEO of Coloplast A/S, Denmark.

Besides being a member of the boards of various Coloplast companies, Mr Scheibye is a member of the Board of Danske Bank A/S, Denmark. Furthermore, he holds a seat on the Central Board and the Executive Committee of the Confederation of Danish Industries.

Mr Scheibye has an MSc in Chemistry and Physics from 1978 and a PhD in Organic Chemistry from 1981, both from the University of Aarhus, Denmark, and a BComm from the Copenhagen Business School, Denmark, from 1983. Mr Scheibye is also an adjunct professor of applied chemistry at the University of Aarhus.

Mr Scheibye was elected to the Board of Novo Nordisk A/S in 2003 and has been re-elected several times, most recently in 2007. His term as a board member expires in March 2008.

Mr Scheibye is regarded as an independent* board member.

Mr Scheibye is a Danish national, born on 3 October 1951.

Göran A Ando

Vice-chairman of the Board of Directors

Göran A Ando, MD, is vice-chairman of the Board of Directors of Novo Nordisk A/S. Dr Ando was CEO of Celltech Group plc, UK, until 2004. He joined Celltech from Pharmacia, now Pfizer, US, where he was executive vice president and president of R&D with additional responsibilities for manufacturing, IT, business development and M&A from 1995 to 2003.

From 1989 to 1995, Dr Ando was medical director, moving to deputy R&D director and then R&D director of Glaxo Group, UK. He was also a member of the Glaxo Group Executive Committee.

Dr Ando is a specialist in general medicine and a founding fellow of the American College of Rheumatology in the US. Dr Ando serves as chairman of the boards of Novoxel SA, France, and Inion Oy, Finland, as vice-chairman of the Board of S*Bio Pte Ltd, Singapore, and as a board member of Novo A/S, Denmark, Bio*One Capital Pte Ltd, Singapore, A-Bio Pharma Pte Ltd, Singapore, NicOx SA, France, Enzon Pharmaceuticals, Inc, US, and EUSA Pharma, UK.

Dr Ando qualified as a medical doctor at Linköping Medical University, Sweden, in 1973 and as a specialist in general medicine at the same institution in 1978.

Dr Ando was elected to the Board of Novo Nordisk A/S in 2005 and re-elected in 2006 and 2007. His term as a board member expires in March 2008. Dr Ando is designated Research and Development Facilitator by the Board of Novo Nordisk A/S.

Dr Ando is not regarded as an independent* board member due to his membership of the Board of Novo A/S.

Dr Ando is a Swedish national, born on 6 March 1949.

Kurt Briner

Kurt Briner works as an independent consultant to the pharmaceutical and biotech industries and is a board member of OM Pharma, Switzerland, Progenics Pharmaceuticals Inc, US, and GALENICA SA, Switzerland. From 1988 to 1998, he was president and CEO of Sanofi Pharma, France. He has been chairman of the European Federation of Pharmaceutical Industries and Associations (EFPIA).

Mr Briner holds a Diploma of the Commercial Schools of Basel and Lausanne, Switzerland.

Mr Briner was elected to the Board of Novo Nordisk A/S in 2000 and has been re-elected several times, most recently in 2007. His term as a board member expires in March 2008.

Mr Briner is regarded as an independent* board member.

Mr Briner is a Swiss national, born on 18 July 1944.

Henrik Gürtler

Henrik Gürtler has been president and CEO of Novo A/S, Denmark, since 2000. He was employed by Novo Industri A/S, Denmark, as an R&D chemist in the Enzymes Division in 1977.

After a number of years in various specialist and managerial positions within this area, Mr Gürtler was appointed corporate vice president of Human Resource Development in Novo Nordisk A/S in 1991, and in 1993 he was appointed corporate vice president

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of Health Care Production. In 1996, he became a member of Corporate Management of Novo Nordisk A/S with special responsibility for Corporate Staffs.

Mr Gürtler is chairman of the boards of Novozymes A/S and Copenhagen Airports A/S, both Denmark. He is vice-chairman of the Board of COWI A/S, Denmark, and a member of the Board of Brødrene Hartmanns Fond, Denmark.

Mr Gürtler has an MSc in Chemical Engineering from the Technical University of Denmark from 1976.

Mr Gürtler was elected to the Board of Novo Nordisk A/S in 2005 and reelected in 2006 and 2007. His term as a board member expires in March 2008.

Mr Gürtler is not regarded as an independent* board member due to his former position as an executive in Novo Nordisk A/S and his present position as president and CEO of Novo A/S.

Mr Gürtler is a Danish national, born on 11 August 1953.

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Johnny Henriksen

Johnny Henriksen has been an employee-elected member of the Board of Directors of Novo Nordisk A/S since 2002 and was re-elected in 2006. His term as a board member expires in March 2010.

He joined Novo Nordisk in January 1986 and currently works as an environmental adviser in Product Supply.

Mr Henriksen has an MSc in Biology from the University of Copenhagen, Denmark, from 1977.

Mr Henriksen is a Danish national, born on 19 April 1950.

Niels Jacobsen

Niels Jacobsen has been president and CEO of William Demant Holding A/S and Oticon A/S, both Denmark, since 1998.

Mr Jacobsen is a board member of A.P. Møller - Mærsk A/S, Denmark, and is also a board member of a number of companies wholly or partly owned by the William Demant Group, including Sennheiser Communications A/S, Himsa A/S (chairman), Himsa II A/S, Hearing Instrument Manufacturers Patent Partnership A/S (chairman), William Demant Invest A/S (chairman), all in Denmark, and Össur hf. (chairman), Iceland. Mr Jacobsen also holds a seat on the Central Board of the Confederation of Danish Industries.

Mr Jacobsen has an MSc in Business Administration from the University of Aarhus, Denmark, from 1983.

Mr Jacobsen was elected to the Board of Novo Nordisk A/S in 2000 and has been re-elected several times, most recently in 2007. His term as a board member expires in March 2008.

Mr Jacobsen is a member of the Audit Committee at Novo Nordisk A/S and is designated as Audit Committee financial expert.

Mr Jacobsen qualifies as an independent Audit Committee member as defined by the US Securities and Exchange Commission (SEC) and is regarded as an independent* board member under the Danish Corporate Governance recommendations.

Mr Jacobsen is a Danish national, born on 31 August 1957.

Anne Marie Kverneland

Anne Marie Kverneland has been an employee-elected member of the Board of Directors of Novo Nordisk A/S since 2000. She was re-elected by the employees in 2002 and in 2006. Her term as a board member expires in March 2010.

Ms Kverneland joined Novo Nordisk in July 1981. She works as a laboratory technician in R&D.

Ms Kverneland has a degree in medical laboratory technology from the Copenhagen University Hospital, Denmark, from 1980.

Ms Kverneland is a Danish national, born on 24 July 1956.

Kurt Anker Nielsen

Kurt Anker Nielsen is a former CFO and deputy CEO of Novo Nordisk A/S and a former CEO of Novo A/S. He serves as vice-chairman of the Board of Novozymes A/S and as a member of the Board of Directors of the Novo Nordisk Foundation, LifeCycle Pharma A/S, Denmark, and ZymoGenetics, Inc, US. He is chairman of the Board of Reliance A/S, Denmark, and a member of the boards of StatoilHydro ASA, Norway, and Vestas Wind Systems A/S, Denmark. In LifeCycle Pharma A/S, ZymoGenetics, Inc, StatoilHydro ASA and Vestas Wind Systems A/S he is also the elected Audit Committee chairman. Mr Nielsen serves as chairman of the Board of Directors of Collstrup's Mindelegat, Denmark.

Mr Nielsen has an MSc in Commerce and Business Administration from the Copenhagen Business School, Denmark, from 1972.

Mr Nielsen was elected to the Board of Novo Nordisk A/S in 2000 and has been re-elected several times, most recently in 2007. His term as a board member expires in March 2008.

Mr Nielsen is chairman of the Audit Committee at Novo Nordisk A/S and is also designated as Audit Committee financial expert.

Mr Nielsen qualifies as an independent Audit Committee member as defined by the US Securities and Exchange Commission (SEC). He is not regarded as an independent* board member under the Danish Corporate Governance Recommendations due to his former position as an executive in Novo Nordisk A/S and his membership of the Board of the Novo Nordisk Foundation.

Mr Nielsen is a Danish national, born on 8 August 1945.

Søren Thuesen Pedersen

Søren Thuesen Pedersen has been an employee-elected member of the Board of Directors of Novo Nordisk A/S since 2006 and a member of the Board of Directors of the Novo Nordisk Foundation since 2002. His term as a board member of Novo Nordisk A/S expires in March 2010.

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Mr Pedersen is currently working as a specialist in Global Quality Development. He joined Novo Nordisk in January 1994. Mr Pedersen has a BSc in Chemical Engineering from the Danish Academy of Engineers from 1988. Mr Pedersen is a Danish national, born on 18 December 1964.

Stig Strøbæk

Stig Strøbæk has been an employee-elected member of the Board of Directors of Novo Nordisk A/S and of the Board of Directors of the Novo Nordisk Foundation since 1998. Mr Strøbæk was re-elected by the employees in 2002 and in 2006. His term as a board member expires in March 2010.

He is currently working in Product Supply as an electrician.

Mr Strøbæk has a diploma as an electrician. He also has a diploma in further training for board members from the Danish Employees Capital Pension Fund (LD) from 2003.

Mr Strøbæk is a Danish national, born on 24 January 1964.

Jørgen Wedel

Jørgen Wedel was executive vice president of the Gillette Company, US, until 2001. He was responsible for Commercial Operations, International, and was a member of Gillette's Corporate Management Group. Since 2004, he has been a board member of ELOPAK AS, Norway.

Mr Wedel has an MSc in Commerce and Business Administration from the Copenhagen Business School, Denmark, from 1972, and an MBA from the University of Wisconsin, US, from 1974.

Mr Wedel was elected to the Board of Novo Nordisk A/S in 2000 and has been re-elected several times, most recently in 2007. His term as a board member expires in March 2008. Mr Wedel is a member of the Audit Committee at Novo Nordisk A/S.

Mr Wedel qualifies as an independent Audit Committee member as defined by the US Securities and Exchange Commission (SEC) and is regarded as an independent* board member under the Danish Corporate Governance recommendations.

Mr Wedel is a Danish national, born on 10 August 1948.

* In accordance with Section V4 of *Recommendations for corporate governance* designated by the OMX Nordic Exchange Copenhagen.

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Shareholder information | Executive Management

Lars Rebien Sørensen

President and chief executive officer (CEO)

Lars Rebien Sørensen joined Novo Nordisk's Enzymes Marketing in 1982. Over the years, he was stationed in several countries, including the Middle East and the US. Mr Sørensen was appointed member of Corporate Management in May 1994 and given special responsibility within Corporate Management for Health Care in December 1994. He was appointed president and CEO in November 2000.

Mr Sørensen is a member of the Board of ZymoGenetics, Inc, US, and DONG Energy A/S, Denmark, as well as a member of the Bertelsmann AG Supervisory Board, Germany. Mr Sørensen received the French award Chevalier de l'Ordre National de la Légion d'Honneur in 2005.

Mr Sørensen has an MSc in Forestry from the University of Copenhagen, Denmark, from 1981, and a BSc in International Economics from the Copenhagen Business School, Denmark, in 1983. Since October 2007, Mr Sørensen has been adjunct professor at the Life Sciences Faculty of the University of Copenhagen.

Mr Sørensen is a Danish national, born on 10 October 1954.

Jesper Brandgaard

Executive vice president and chief financial officer (CFO)

Jesper Brandgaard joined Novo Nordisk in 1999 as corporate vice president of Corporate Finance and was appointed CFO in November 2000. He serves as chairman of the boards of NNE Pharmaplan A/S and NNIT A/S, both Denmark, and is also vice-chairman of the Board of SimCorp A/S, Denmark.

Mr Brandgaard has an MSc in Economics and Auditing from 1990 as well as an MBA from 1995, both from the Copenhagen Business School, Denmark.

Mr Brandgaard is a Danish national, born on 12 October 1963.

Lise Kingo

Executive vice president and chief of staffs (COS)

Lise Kingo joined Novo Nordisk's Enzyme Promotion in 1988 and over the years worked to build up the company's Triple Bottom Line approach. In 1999, she was appointed corporate vice president, Stakeholder Relations. She was appointed executive vice president, Corporate Relations, in March 2002.

Ms Kingo is a member of the Board of GN Store Nord A/S, Denmark, and associate professor at the Medical Faculty, Vrije Universiteit, Amsterdam, the Netherlands.

Ms Kingo has a BA in Religions and a BA in Ancient Greek Art from the University of Aarhus, Denmark, from 1986, a BComm in Marketing Economics from the Copenhagen Business School, Denmark, from 1991, and an MSc in Responsibility and Business Practice from the University of Bath, UK, from 2000.

Ms Kingo is a Danish national, born on 3 August 1961.

Kåre Schultz

Executive vice president and chief operating officer (COO)

Kåre Schultz joined Novo Nordisk in 1989 as an economist in Health Care, Economy & Planning. In November 2000, he was appointed chief of staffs. In March 2002, he took over the responsibility of COO. Mr Schultz is a member of the Board of LEGO A/S, Denmark.

Mr Schultz has an MSc in Economics from the University of Copenhagen, Denmark, from 1987.

Mr Schultz is a Danish national, born on 21 May 1961.

Mads Krogsgaard Thomsen

Executive vice president and chief science officer (CSO)

Mads Krogsgaard Thomsen joined Novo Nordisk in 1991. He was appointed CSO in November 2000. He sits on the editorial boards of international journals and is a member of the Board of Governors of the Technical University of Denmark. He is also a non-executive director of the Board of Cellartis AB, Sweden.

Dr Thomsen has a DVM from the University of Copenhagen, Denmark, from 1986, where he also obtained a PhD in 1989 and a DSc in 1991, and became adjunct professor of pharmacology in 2000. He is a former president of the National Academy of

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Technical Sciences (ATV), Denmark.

Dr Thomsen is a Danish national, born on 27 December 1960.

Other members of the Senior Management Board

Jesper Bøving CMC Supply
Kim Bundegaard Facilitation and Group Internal Audits
Mariann Strid Christensen Global Quality *)
Flemming Dahl DAPI Biopharmaceuticals
Claus Eilersen Japan & Oceania
Peter Bonne Eriksen Regulatory Affairs
Lars Green Corporate Finance

Jesper Høiland International Operations
Per Jansen NNS *)
Lars Fruergaard Jørgensen IT & Corporate Development
Terje Kalland Biopharmaceuticals Research Unit
Lars Guldbæk Karlsen Global Development **)
Jesper Kløve Devices & Sourcing
Per Kogut NNIT
Peter Kurtzhals Diabetes Research Unit
Lars Christian Lassen Corporate People & Organisation

Ole Ramsby Legal Affairs
Jakob Riis International Marketing **)
Martin Soeters North America **)
Kim Tosti Diabetes Finished Products
Per Valstorp Product Supply
Hans Ole Voigt NNE Pharmaplan

**) Until 31 December 2007.

**) Takes new position as of 1 January 2008.

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shares and capital structure

Novo Nordisk aims at communicating openly with stakeholders about the company's financial and business development as well as strategies and targets. Through active dialogue, the company seeks to ensure fair and efficient pricing of its shares.

To keep investors updated on financial and operating performance as well as the progress of clinical programmes, Executive Management and Investor Relations travel extensively to meet institutional investors and attend investor conferences after each quarterly financial announcement.

This ensures that all investors with a major holding of Novo Nordisk shares can attend meetings on a regular basis and that a high number of smaller investors or potential investors also have access. Roadshows are concentrated on, but not limited to, major European and North American financial centres.

A wide range of other investor activities are held during the year. Investors and financial analysts are welcome to visit Novo Nordisk at the headquarters in Bagsværd, Denmark, as well as at regional headquarters. In 2007, meetings with investor groups were held at regional headquarters in Princeton, US, in Bangalore, India, and in Moscow, Russia.

Furthermore, investors and analysts are invited every year to presentations of the most recent scientific results in connection with the two major medical diabetes conferences, ADA and EASD. In November 2007, a one-day tour of Novo Nordisk's largest production site was arranged. This visit to the Kalundborg site gave investors and analysts insight into the production processes of biologics and an understanding of ongoing efforts to optimise production processes.

Share price performance

In 2007, in line with share price appreciation and in order to enhance liquidity, Novo Nordisk's Board of Directors approved a stock split of the company's B shares. This 2:1 split took effect on 3 December for B shares traded on the OMX Nordic Exchange Copenhagen, and on the

London Stock Exchange. Novo Nordisk's ADRs listed on the New York Stock Exchange were split on 17 December.

Between the closing price of 2006 and 30 November 2007 (the last day of trading before the stock split), the price of the Novo Nordisk B share increased by 38% to DKK 647 from DKK 470.5. In December, following the stock split, the share price rose by 4%, thus the total increase for 2007 was 42%. This was significantly better than the 2007 performance of the OMX Copenhagen 20 Index, up 5%, and the MSCI Europe Health Care Index, down 11%, both measured in DKK. Measured in USD, the price of the Novo Nordisk B share increased by 58%, which compared favourably with a USD return of 5% for the MSCI US Health Care Index.

Novo Nordisk's positive share price development is perceived as a reflection of the company's position in a growth market, strong operating performance and ongoing progress in research and development. In 2007, operating performance was bolstered by solid sales growth (reported sales 8%; sales measured in local currencies 13%) driven by the strategically significant modern insulin products. Substantial productivity increases, achieved through the production efficiency improvement programme cLean®, also contributed. These factors led to an improvement in the gross margin of around 130 basis points in 2007.

Within research and development, the results of the phase 3 programme intended for regulatory filing outside Japan for the human GLP-1 analogue liraglutide are believed to have made a positive impact on the share price. Factors on the negative side were the NovoSeven® ICH phase 3 results, which did not support a filing for this indication, and unfavourable currency developments for some of Novo Nordisk's key invoicing currencies, including the US dollar.

Capital structure

The Board of Directors believes that the current capital and share structures of Novo Nordisk serve the interests of the shareholders and the company. In the event of excess capital after the funding of organic growth opportunities and potential acquisitions, Novo Nordisk's guiding policy is to return capital to investors through dividend payments and share repurchase programmes.

As decided at the Annual General Meeting 2007, a reduction of the company's B share capital, corresponding to approximately

4% of the total share capital, was effected in June 2007 by cancellation of treasury shares.

*) As disclosed by The Capital Group Companies on 10 December 2007.

**Price development and monthly turnover of Novo Nordisk s B shares
on the OMX Nordic Exchange Copenhagen 2007**

* Historical prices in the graph are adjusted for the share split in December 2007.

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This enables Novo Nordisk to continue to buy back shares without exceeding the limit for total holding of treasury shares of 10% of the total capital. In 2007, Novo Nordisk repurchased shares worth DKK 4.8 billion, compared to DKK 3 billion in 2006. This is part of the ongoing share repurchase programme of DKK 16.5 billion for the period 2006–2009.

As part of the agenda for the Annual General Meeting 2008, the Board of Directors will propose a reduction of the company's B share capital, corresponding to approximately 2% of the total share capital, by cancelling treasury shares.

Share capital and ownership

Novo Nordisk's total share capital of DKK 646,960,000 is divided into A share capital of nominally DKK 107,487,200, and B share capital of nominally DKK 539,472,800 of which DKK 25,815,130 is held as treasury shares (figures as of 31 December 2007). Novo Nordisk's A shares (each DKK 1) are non-listed shares and held by Novo A/S, a Danish public limited liability company which is 100% owned by the Novo Nordisk Foundation. According to the Articles of Association of the Foundation, the A shares cannot be divested by Novo A/S or the Foundation.

In addition, as of 31 December 2007 Novo A/S held DKK 57,487,600 of B share capital. Each holding of DKK 1 of the A share capital carries 10 votes. Each holding of DKK 1 of the B share capital carries one vote. With 25.5% of the total share capital, Novo A/S controls 71% of the total number of votes, excluding treasury shares. The total market value of Novo Nordisk's B shares excluding treasury shares was DKK 172 billion at the end of 2007.

Novo Nordisk's B shares are quoted on the OMX Nordic Exchange Copenhagen and the London Stock Exchange, and on the New York Stock Exchange in the form of ADRs. The B shares are traded in units of DKK 1. The ratio of Novo Nordisk's B shares to ADRs is 1:1. The B shares are issued to the bearer but may, on request, be registered in the holder's name in Novo Nordisk's register of shareholders.

As Novo Nordisk B shares are in bearer form, no official record of all shareholders exists. Based on the available sources of information on the company's shareholders, it is estimated that Novo Nordisk's shares at the end of 2007 were distributed as shown in the charts on p 49. At the end of 2007 the free float was 71%.

Form 20-F

The Form 20-F Report for 2007 is expected to be filed with the United

States Securities and Exchange Commission in February 2008. The report can be downloaded from novonordisk.com/investors.

Payment of dividends

Shareholders' enquiries concerning dividend payments, transfer of share certificates, consolidation of shareholder accounts and tracking of lost shares should be addressed to Novo Nordisk's transfer agents (see inside back cover).

For 2007, the proposed dividend payments for Novo Nordisk shares are illustrated in the table below. Novo Nordisk does not pay a dividend on its holding of treasury shares. The dividend for 2006 paid in March 2007 was DKK 7 per share of DKK 2, equivalent to DKK 3.50 a share, adjusted for the 2:1 share split of December 2007.

Proposed dividend payment for 2007

A shares of DKK 1	B shares of DKK 1	ADRs
DKK 4.50	DKK 4.50	DKK 4.50

Internet

Novo Nordisk's homepage for investors is novonordisk.com/investors. It includes historical and updated information about Novo Nordisk's activities: press releases from 1995 onwards, financial and non-financial results, a calendar of investor-relevant events, investor presentations, background information and recent annual reports.

Financial calendar 2008

Annual General Meeting

12 March 2008

Dividend	B shares	ADRs
Ex-dividend	13 March	13 March
Record date	17 March	17 March
Payment	18 March	25 March

Announcement of financial results 2008

First three months	30 April
Half year	7 August
Nine months	30 October
Full year	29 January 2009

Price development of Novo Nordisk s B shares relative to the MSCI Europe Health Care Index measured in DKK

Price development of Novo Nordisk s B shares relative to the MSCI US Health Care Index measured in USD

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	2003	2004	2005	2006	2007	2006 2007	2006	2007
	DKK million	DKK million	DKK million	DKK million	DKK million	Change	EUR million	EUR million
<i>Diabetes care:</i>								
Modern insulins (insulin analogues)	2,553	4,507	7,298	10,825	14,008	29.4%	1,451	1,880
Human insulins	13,140	13,033	13,543	13,451	12,572	(6.5%)	1,804	1,687
Insulin-related sales	1,352	1,350	1,463	1,606	1,749	8.9%	215	235
Oral antidiabetic products (OAD)	1,430	1,643	1,708	1,984	2,149	8.3%	266	288
Diabetes care total	18,475	20,533	24,012	27,866	30,478	9.4%	3,736	4,090

Biopharmaceuticals: