Manato Ohara, diagnosed with type 1 diabetes
Kanagawa, Japan

novo nordisk – a focused healthcare company

Investor presentation
First three months of 2017

novo nordisk

Agenda

- Highlights and key events
- Sales update
- R&D update
- Financials and outlook

Forward-looking statements

Novo Nordisk's reports filed with or furnished to the US Securities and Exchange Commission (SEC), including the company's Annual Report 2016 and Form 20-F, which are both filed with the SEC in February 2017 in continuation of the publication of the Annual Report 2016, 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', 'can', 'intend', 'target' and other 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 targets, plans, objectives or goals for future operations, including those related to Novo Nordisk's products, product research, product development, product introductions and product approvals as well as cooperation in relation thereto
- Statements containing projections of or targets for revenues, costs, income (or loss), earnings per share, capital expenditures, dividends, capital structure, net financials and other financial measures
- Statements regarding future economic performance, future actions and outcome of contingencies such as legal proceedings, and
- Statements regarding the assumptions underlying or relating to such statements.

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 presentation, 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 currency exchange rate fluctuations, delay or failure of projects related to research and/or development, 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 in 'Risk Management' on pp 40-43 of the Annual Report 2016.

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 presentation, whether as a result of new information, future events or otherwise.

Important drug information

- Victoza® (liraglutide 1.2 mg & 1.8 mg) is approved for the management of type 2 diabetes only
- Saxenda® (liraglutide 3 mg) is approved in the US and EU for the treatment of obesity only

Highlights – First three months of 2017

Sales development

- Sales increased by 5% in Danish kroner and 3% in local currencies
  - North America Operations grew by 5% in Danish kroner and accounted for 34% share of growth in local currencies
  - International Operations grew by 4% in Danish kroner and accounted for 66% share of growth in local currencies
    - Region Europe grew by 4% in Danish kroner
    - Japan & Korea grew by 10% in Danish kroner
    - Region China grew by 6% in Danish kroner
  - Tresiba® grew 174% in Danish kroner and now represents 5% of total sales

Research and Development

- EU approval of label update for Tresiba® based on data from SWITCH trials
- Resubmission of new drug application for fast-acting insulin aspart in the US
- Positive CHMP opinion for Refixia® (N9-GP) in the EU

Financials

- Operating profit increased by 10% in Danish kroner and by 6% in local currencies
- Diluted earnings per share increased by 9% to 4.06 DKK per share
- 2017 financial outlook:
  - Reported sales growth is now expected to be 1-4% (now around 1% lower in local currencies)
  - Reported operating profit growth is now expected to be around 0-4% (now around 1% lower in local currencies)

CHMP: Committee for Medicinal Products for Human Use in Europe

New members of Executive management

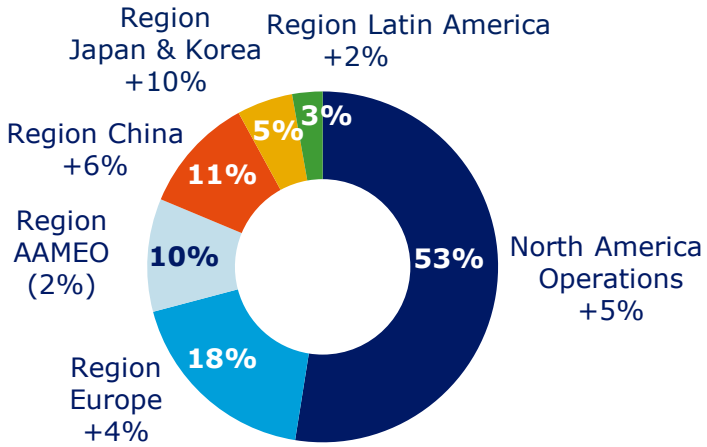
President & CEO
Lars Fruergaard Jørgensen

Finance, Legal & Investor Relations	Research & Development	Product Supply	North America Operations	International Operations	Business Services and Compliance
					
Jesper Brandgaard	**Mads Krogsgaard Thomsen**	**Henrik Wulff**	**Doug Langa**[1] as of 1 March 2017	**Maziar Mike Doustdar**[1]	**Lars Green** as of 1 July 2017

[1] Not registered with the Danish Business Authority

Sales growth is primarily driven by Region Europe, the US and Region China

Sales as reported – First three months of 2017



Sales of DKK 28.5 billion (+5%)

Growth analysis – First three months of 2017

Local currencies	Growth	Share of growth
North America Operations	**2%**	**34%**
USA	2%	30%
International Operations	**4%**	**66%**
Region Europe	6%	37%
Region AAMEO	(1%)	(4%)
Region China	8%	30%
Region Japan & Korea	5%	8%
Region Latin America	(5%)	(5%)
Total sales	**3%**	**100%**

AAMEO: Africa, Asia, Middle East & Oceania

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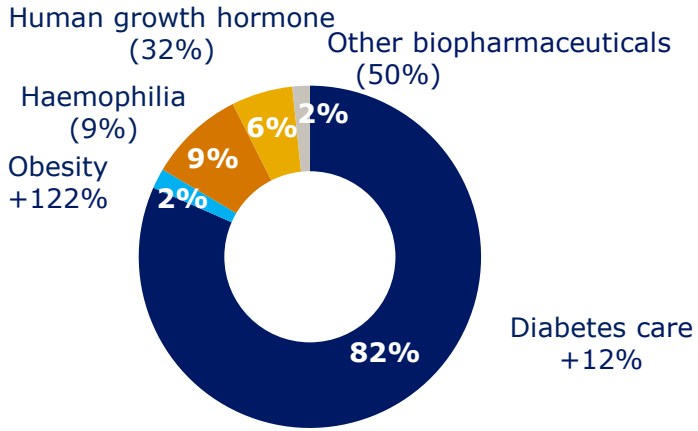
Sales growth is driven by new-generation insulin and Victoza®

Sales as reported – First three months of 2017



Sales of DKK 28.5 billion (+5%)

Growth analysis – First three months of 2017

Local currencies	Growth	Share of growth
New-generation insulin[1]	163%	129%
Modern insulin	2%	28%
Human insulin	(4%)	(13%)
Victoza®	22%	127%
Other diabetes care[2]	(4%)	(6%)
Total diabetes care	**10%**	**265%**
Obesity (Saxenda®)	110%	34%
Diabetes and obesity care total	**11%**	**299%**
Haemophilia[3]	(11%)	(39%)
Human growth hormone products	(33%)	(100%)
Other biopharmaceuticals[4]	(51%)	(60%)
Biopharmaceuticals	**(25%)**	**(199%)**
Total	**3%**	**100%**

[1] Comprises Tresiba®, Xultophy® and Ryzodeg®
[2] Primarily NovoNorm® and needles
[3] Comprises NovoSeven®, NovoEight® and NovoThirteen®
[4] Primarily Vagifem® and Activelle®

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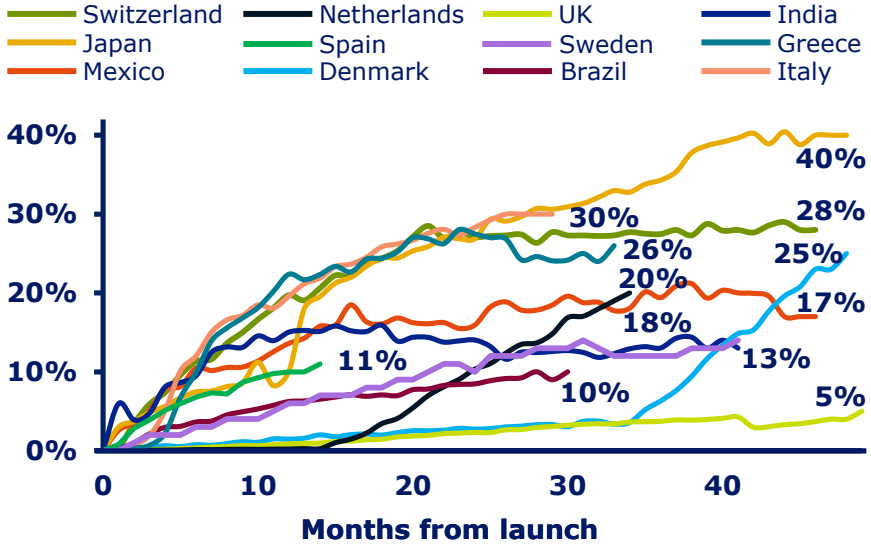
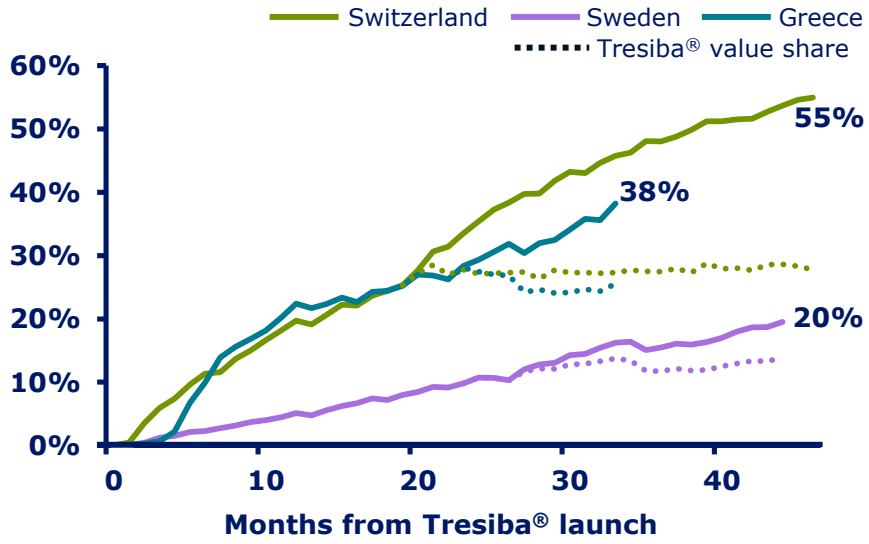
Global roll-out of Tresiba® continuing according to plan supported by Xultophy® launches

Tresiba® value share of basal insulin segment in selected countries, excluding the USA



Note: Limited IMS coverage in India
Source: IMS Monthly value figures, February 2017

Combined value share of Tresiba® and Xultophy® in selected countries



Source: IMS Monthly value figures, February 2017

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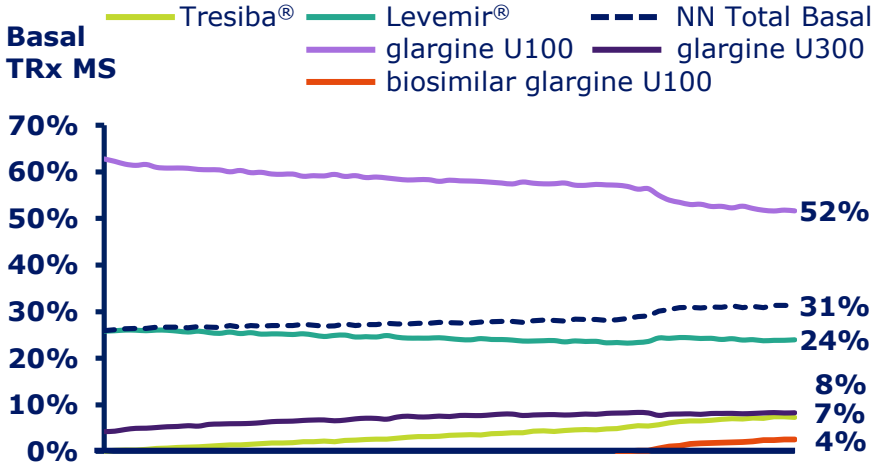
Increasing total market share of the basal insulin franchise in the US

Weekly TRx volume market shares in the US



Note: The graph does not show NPH, which accounts for the residual market share
Source: IMS weekly Xponent Plantrak (excludes Medicaid), 7 Apr 2017
TRx volume: insulin volume associated to total retail prescriptions; MS: Market share

Tresiba® launch in the US

- Tresiba® new to brand prescriptions market share is now 12%
- The uptake of Tresiba® was positively affected by the commercial formulary changes for CVS in the early part of the first quarter of 2017
- Tresiba® U200 accounts for around 75% of total Tresiba® volume
- Wide formulary access has been obtained with around 70% access for patients in commercial channels and Medicare part D combined

Source: IMS weekly Xponent Plantrak (excludes Medicaid), 7 Apr 2017

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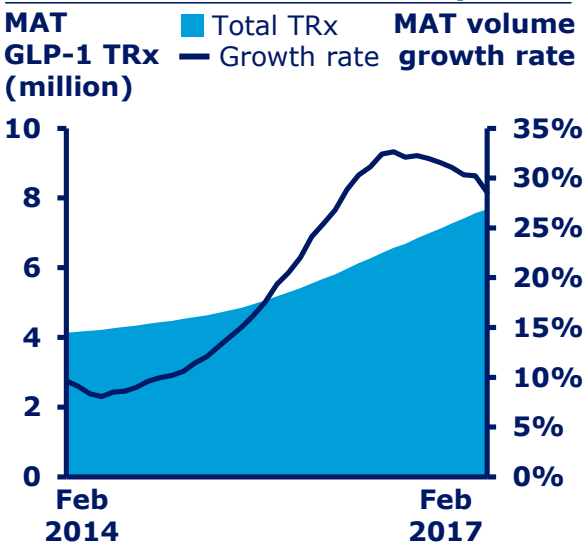
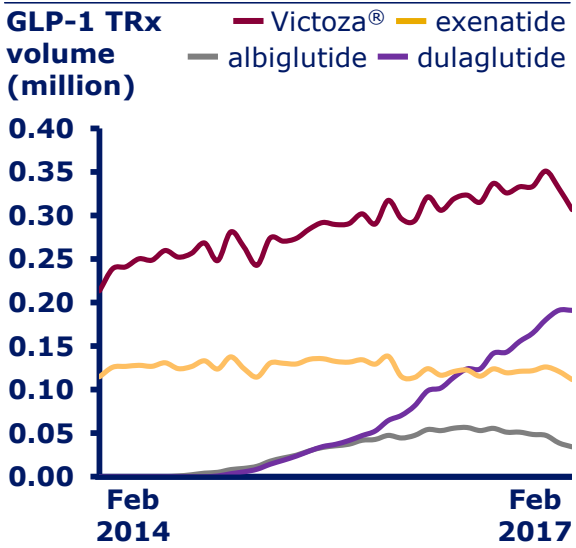
Victoza® maintains leadership in the faster growing US GLP-1 market

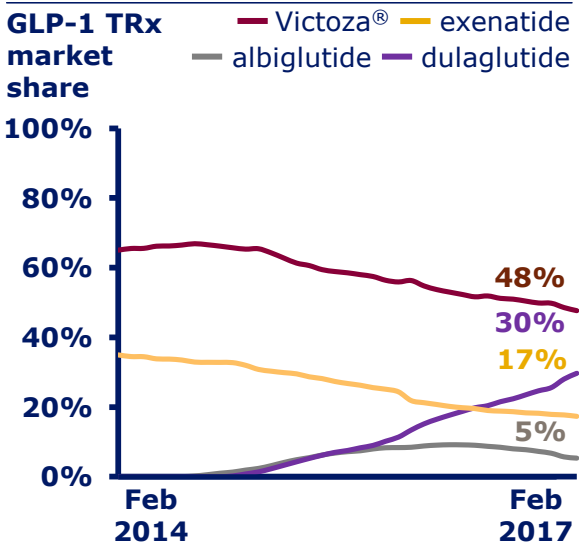
US GLP-1 market development



US GLP-1 market TRx volume



US GLP-1 market shares



Source: IMS NPA monthly, February 2017

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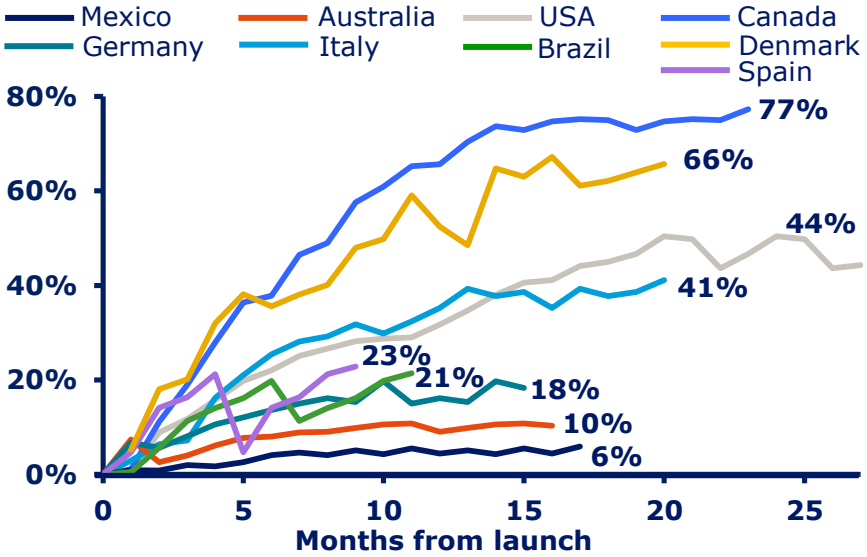
Continued global roll-out of Saxenda® and an evolving obesity portfolio

Saxenda® value share of anti-obesity medications in selected countries



Source: IMS, February 2017 for all countries (except for Denmark where the last data point is July 2016).
Note: AOM market size varies significantly between countries

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The global obesity potential

The unmet need in obesity

- Only 2% of the 600 million people with obesity are treated with an AOM

Saxenda® and obesity pipeline

- Successful uptake of Saxenda® supports Novo Nordisk's long term commitment to obesity treatment
- Saxenda® has been launched in 18 markets and represents 36% of the current patient growth for the AOM market
- Novo Nordisk obesity pipeline includes semaglutide for obesity in phase 2 development and six projects in phase 1

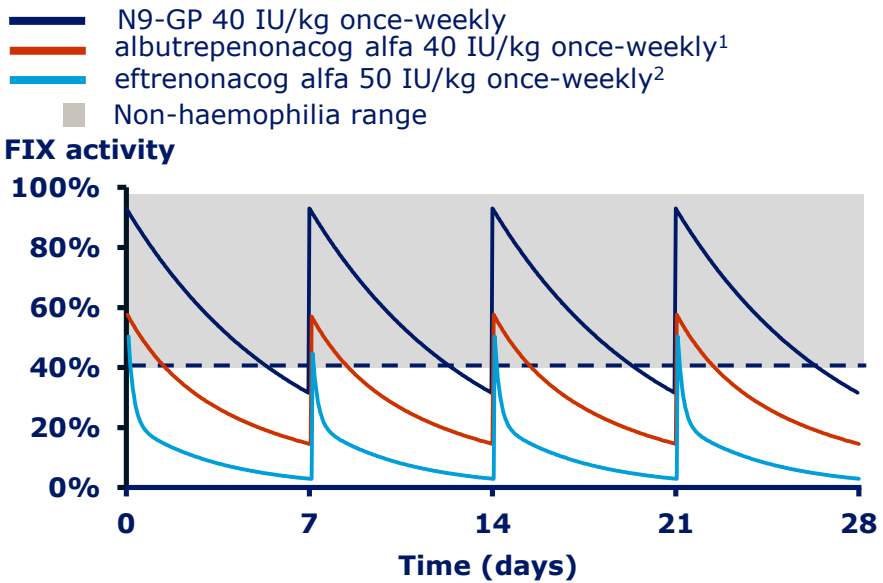
Key global initiatives

- Educate HCPs in obesity management
- Drive patient engagement via Saxenda® care
- Drive recognition of obesity as a chronic disease
- Improve market access to obesity care

Source: WHO, IDF and IMS MIDAS (MAT Q3 2016)
AOM: Anti-obesity medication
HCPs: Health care professionals

Positive CHMP opinion for Refixia® (N9-GP) in the EU

Kinetics of long-acting FIX therapies



Source: Novo Nordisk briefing book N9-GP
[1] Zhang et al. J Thromb Haemost 2016; [2] Shapiro et al. Blood 2012

Regulatory status and next steps

EU

- Positive opinion received by the CHMP under the brand name Refixia®

USA

- A Blood Products Advisory Committee meeting was conducted in April 2017 to discuss the safety profile of N9-GP. No voting was carried out

Next steps

- Feedback from regulatory authorities in Europe and the US expected in Q2 2017
- Submission to regulatory authorities in Japan expected in Q2 2017

CHMP: Committee for Medicinal Products for Human Use

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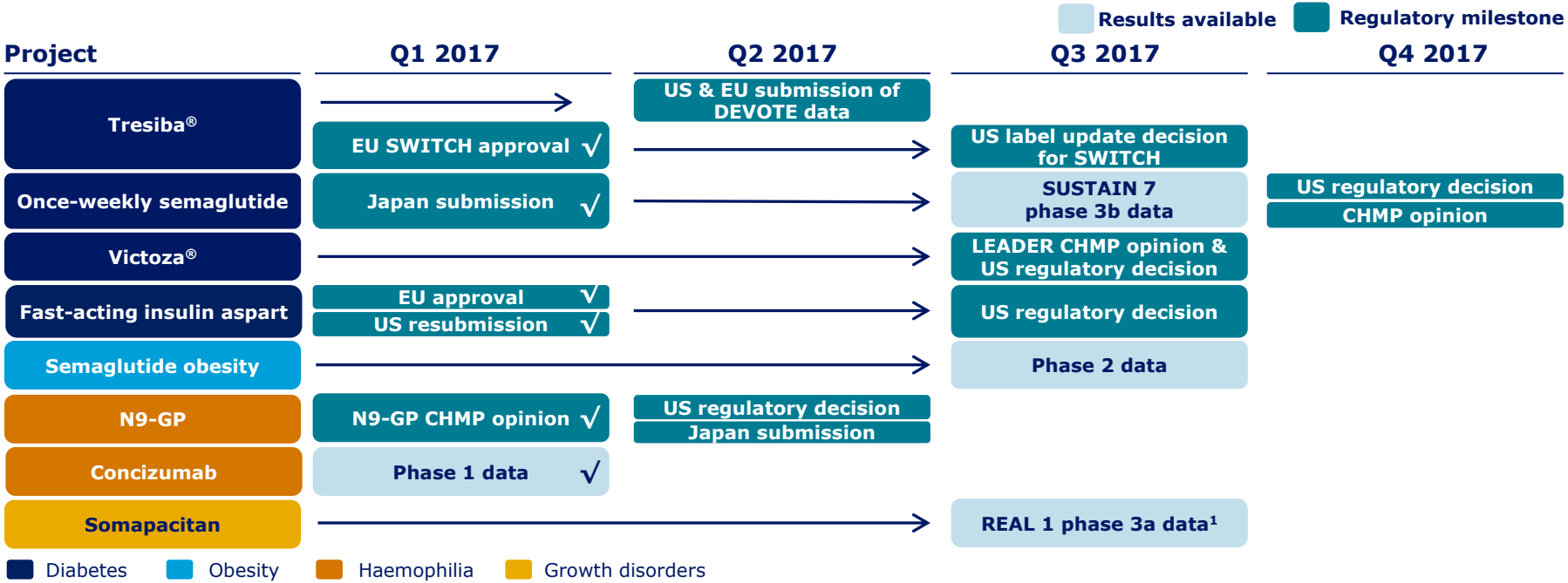
Key development milestones reached

Diabetes	• EU approval of label update for Tresiba® based on data from SWITCH trials • New drug application for fast-acting insulin aspart (NN1218) resubmitted in the USA • Once-weekly semaglutide (NN9535) filed for regulatory approval for type 2 diabetes in Japan
Obesity and other areas	• Tri-agonist 1706 (NN9423) phase 1 trial initiated • FDA approval of Saxenda® label update including long-term safety and efficacy data from 3-year trial
Biopharm	• Somapacitan (NN8640) phase 3a trial initiated for people with AGHD in Japan • Subcutaneous N8-GP (NN7170) phase 1 trial initiated for people with haemophilia A

FDA: Food and Drug Administration
AGHD: Adult growth hormone deficiency

Significant regulatory news flow in 2017



[1] Study conducted in adult growth hormone disorder
CHMP: Committee for Medicinal Products for Human Use in Europe

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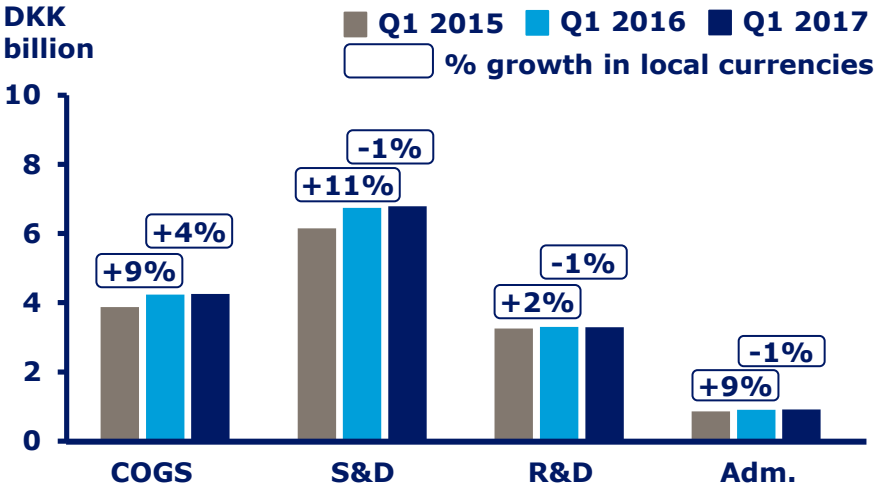
Financial results – first three months 2017

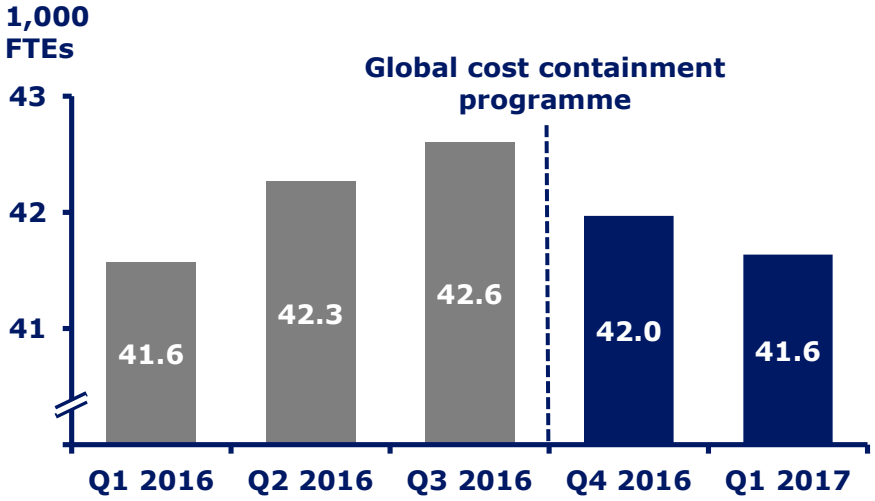
DKK million	Q1 2017	Q1 2016	Change
Sales	28,452	27,212	5%
Gross profit	24,201	22,978	5%
Gross margin	*85.1%*	*84.4%*	
Sales and distribution costs	(6,787)	(6,741)	1%
Percentage of sales	*23.9%*	*24.8%*	
Research and development costs	(3,289)	(3,304)	0%
Percentage of sales	*11.6%*	*12.1%*	
Administration costs	(913)	(908)	1%
Percentage of sales	*3.2%*	*3.3%*	
Other operating income, net	278	284	(2%)
Operating profit	13,490	12,309	10%
Operating margin	*47.4%*	*45.2%*	
Financial items (net)	(486)	(356)	37%
Profit before income tax	13,004	11,953	9%
Income taxes	(2,848)	(2,498)	14%
Effective tax rate	*21.9%*	*20.9%*	
Net profit	10,156	9,455	7%
Diluted earnings per share (DKK)	4.06	3.71	9%

A global cost containment programme was implemented in the second half of 2016

Cost development for the first three months of 2015-2017



Development in full-time employees before and after the Q3 release in 2016



COGS: Cost of goods sold; S&D: Sales and distribution; R&D: Research and development
Adm.: Administrative costs

FTE: Full-time employee

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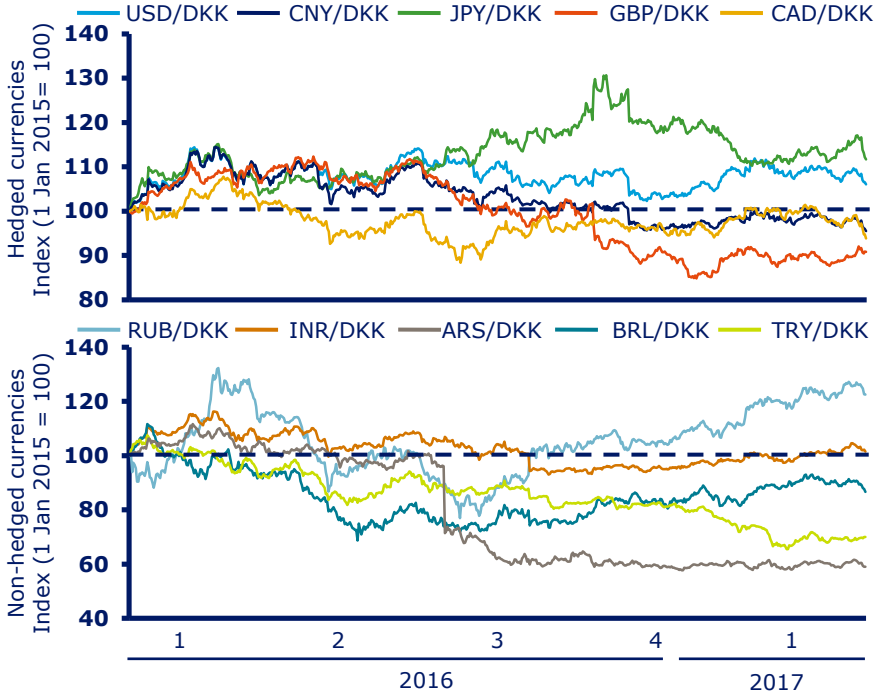
Currency impact in 2017 driven by development in both hedged and unhedged currencies



Hedged Currencies	2016 average	2017 average[2]	Spot rate[2]	Impact of a 5% move[3]	Hedging (months)
USD[1]	677	698	680	2,100	12
CNY[1]	104	101	98.6	320	7[4]
JPY[1]	5.88	6.10	6.10	200	12
GBP[1]	969	865	880	90	12
CAD[1]	493	528	499	80	11

Non-hedged Currencies	2016 average	2017 average[2]	Spot rate[2]
ARS[1]	0.5	0.4	0.4
TRY[1]	229.8	229.8	191.8
INR[1]	10.0	10.4	10.6
RUB[1]	9.1	11.9	12.0
BRL[1]	173.4	221.1	213.7

[1] DKK per 100; [2] As of 28 April 2017; [3] Operating profit in DKK million per annum; [4] Chinese Yuan traded offshore (CNH)
Note: Operating profit impact of one of the non-hedged currencies appreciating 5% is in the range of DKK -15 to +40 million

Financial outlook for 2017

	Expectations 3 May 2017	Previous expectations 2 Feb 2017
Sales growth - local currencies	**0% to 3%**	-1% to 4%
Sales growth - reported	**Around 1 percentage point higher**	Around 2 percentage points higher
Operating profit growth - local currencies	**-1% to 3%**	-2% to 3%
Operating profit growth - reported	**Around 1 percentage point higher**	Around 2 percentage points higher
Financial items (net)	**Loss of around DKK 1.8 billion**	Loss of around DKK 2.4 billion
Effective tax rate	21-23%	21-23%
Capital expenditure	Around DKK 10.0 billion	Around DKK 10.0 billion
Depreciation, amortisation and impairment losses	Around DKK 3 billion	Around DKK 3 billion
Free cash flow	Around DKK 29-33 billion	Around DKK 29-33 billion

The financial outlook is based on an assumption of a continuation of the current business environment and given the current scope of business activities and has been prepared assuming that currency exchange rates remain at the level as of 28 April 2017

Closing remarks

Solid leadership positions and continued market opportunities

27%	Novo Nordisk value market share in diabetes care and solid leadership position
~4%	insulin market volume growth
46%	Novo Nordisk insulin volume market share with leadership position across all regions
>20%	GLP-1 volume market growth
58%	Novo Nordisk GLP-1 volume market share with strong global leadership position
18	countries successfully launched Saxenda®

Promising pipeline and product launches

- The only company with a full portfolio of novel insulin and GLP-1 products
- Semaglutide portfolio offers expansion opportunity with both injectable and oral administration
- Xultophy® supports promising outlook for insulin and GLP-1 combination therapy
- Saxenda® and multiple clinical stage development projects hold potential within obesity
- Broad pipeline within haemophilia

Source: IMS MAT February 2017 volume and value (DKK) figures

Investor contact information

Share information

Novo Nordisk's B shares are listed on the stock exchange in Copenhagen under the symbol 'NOVO B'. Its ADRs are listed on the New York Stock Exchange under the symbol 'NVO'. For further company information, visit Novo Nordisk on the internet at: novonordisk.com

Upcoming events

09 Aug 2017 Financial statement for the first half of 2017

01 Nov 2017 Financial statement for the first nine months of 2017

01 Feb 2018 Financial statement for 2017

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Appendix

1. Novo Nordisk at a glance
2. Diabetes and obesity
3. Biopharmaceuticals
4. Financials
5. Sustainability

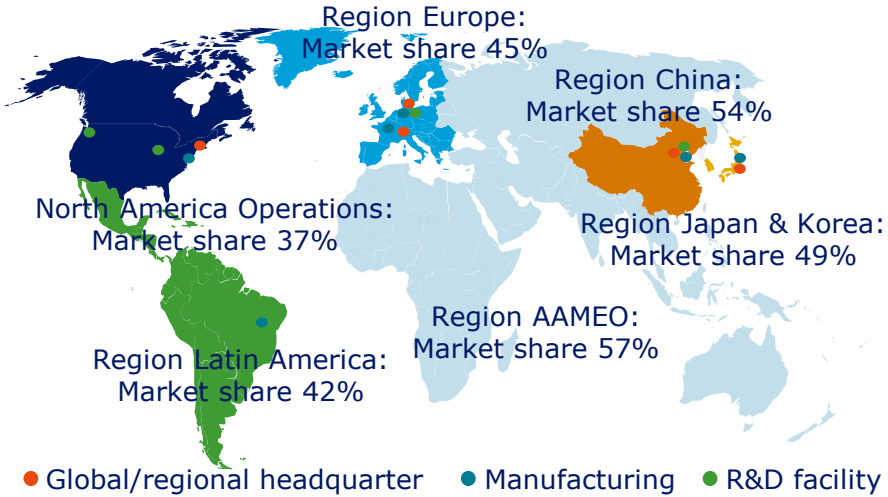
Novo Nordisk at a glance

Global leader in diabetes care

- A **focused** pharmaceutical company with **leading positions** in diabetes, haemophilia and growth hormone
- Significant **growth opportunities** driven by the diabetes pandemic, fuelled by global presence and strong R&D pipeline
- **High barriers to entry** in biologics
- **Operating profit growth** targeting **5% on average**
- Earnings **conversion to cash** targeting **90%**
- **Cash generated returned to shareholders**

Global insulin market leadership

Global insulin market share: 46%



Source: IMS MAT February 2017 volume figures
AAMEO: Africa, Asia, Middle East & Oceania

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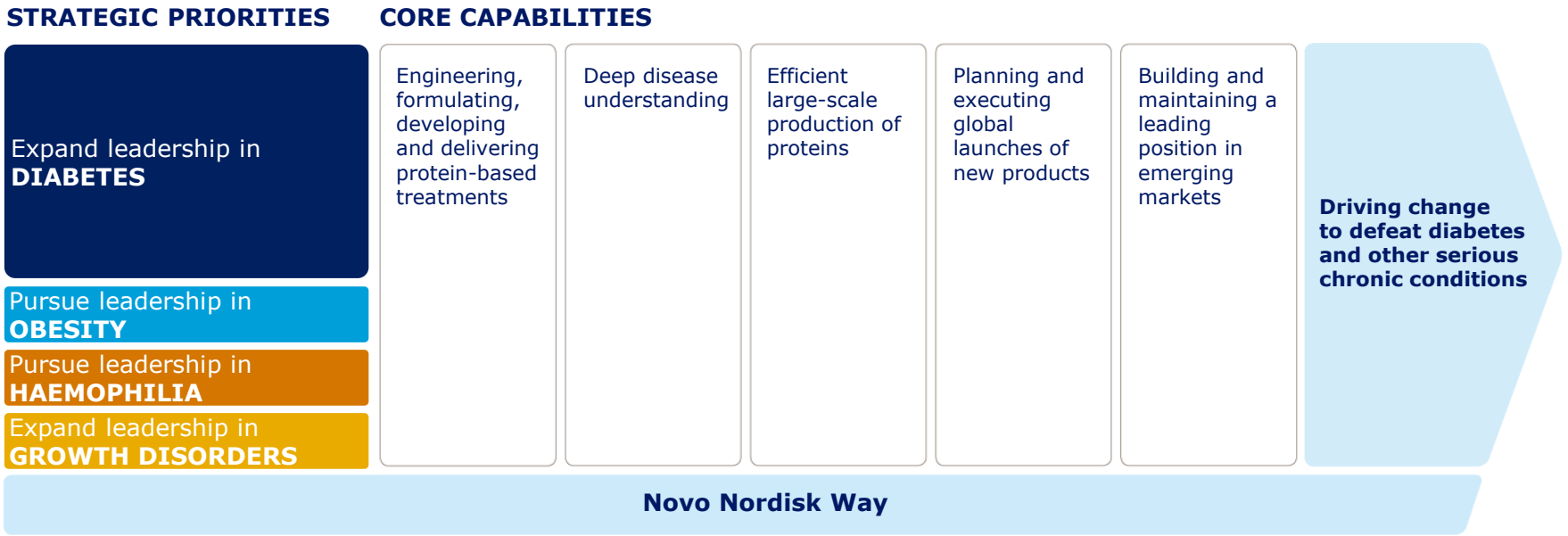
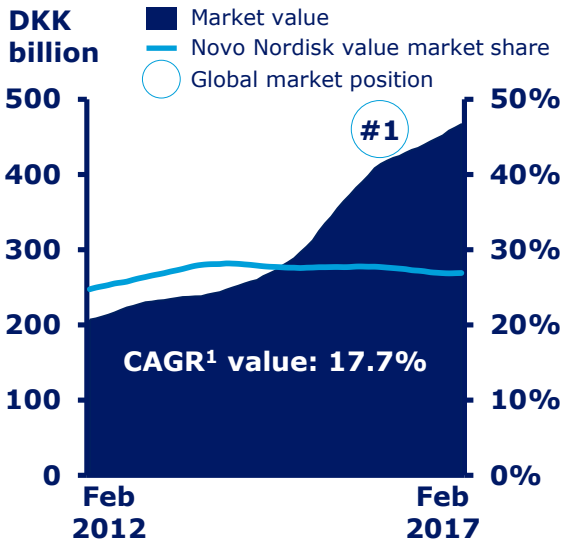
Novo Nordisk works with four strategic focus areas based on five core capabilities



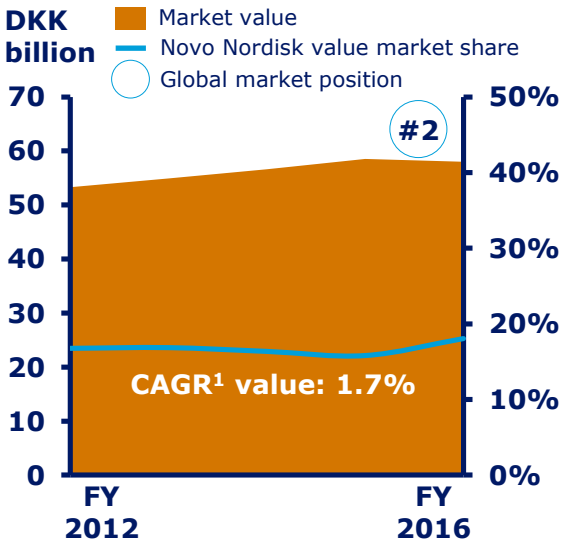
Novo Nordisk has leading positions in diabetes, haemophilia and growth disorders

Diabetes



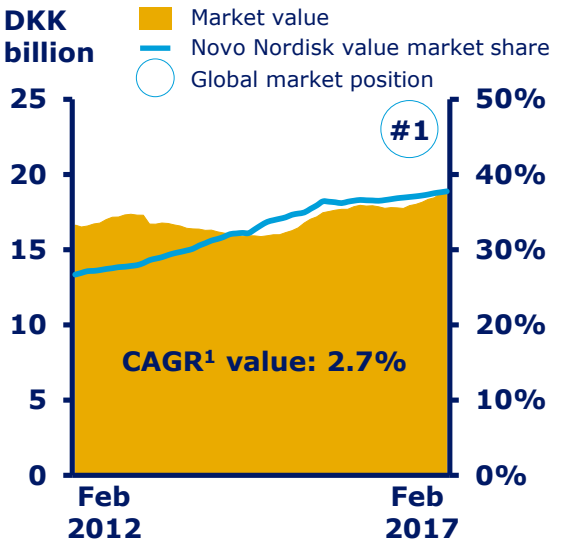
[1] CAGR for 5-year period
Source: IMS MAT February, 2017 value figures

Haemophilia



Note: Annual sales figures for Haemophilia A, B and inhibitor segment
[1] CAGR for 5-year period
Source: Company reports

Growth disorders



[1] CAGR for 5-year period
Source: IMS MAT February, 2017 value figures

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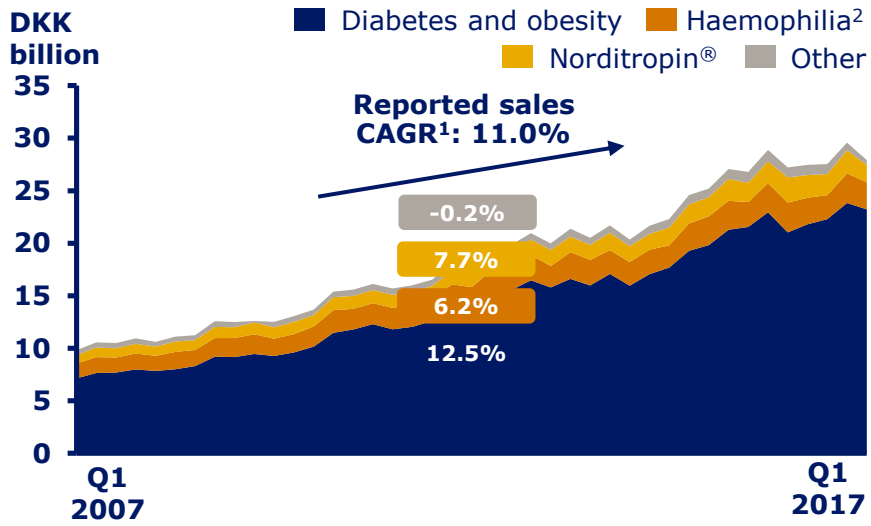
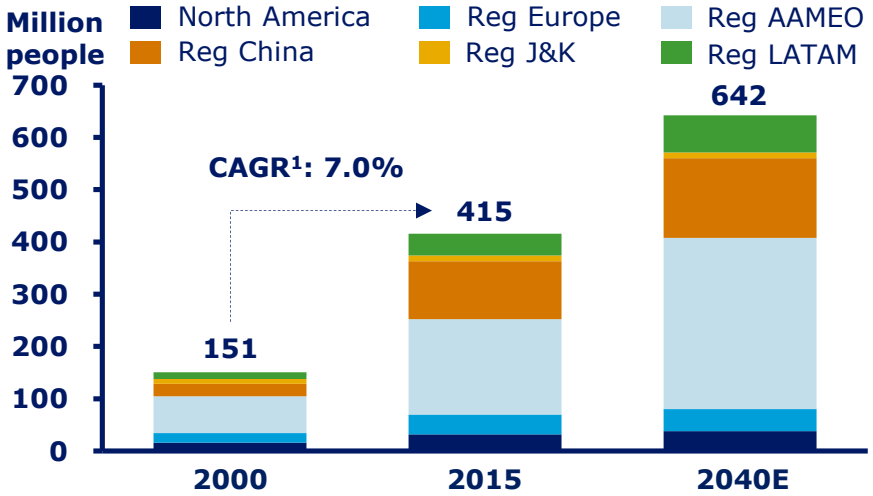
Top line growth driven by the diabetes pandemic

Novo Nordisk reported quarterly sales by therapy



[1] CAGR for 10-year period
[2] Haemophilia includes NovoSeven®, NovoThirteen® (as of Q1 2013) and NovoEight® (as of Q1 2014)

International Diabetes Federation projects that 642 million people will have diabetes by 2040



Reg: Region; J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
Note: 20-79 age group
[1] CAGR for 15-year period
Source: International Diabetes Federation: Diabetes Atlas 1st and 7th Edition, 2000 and 2015

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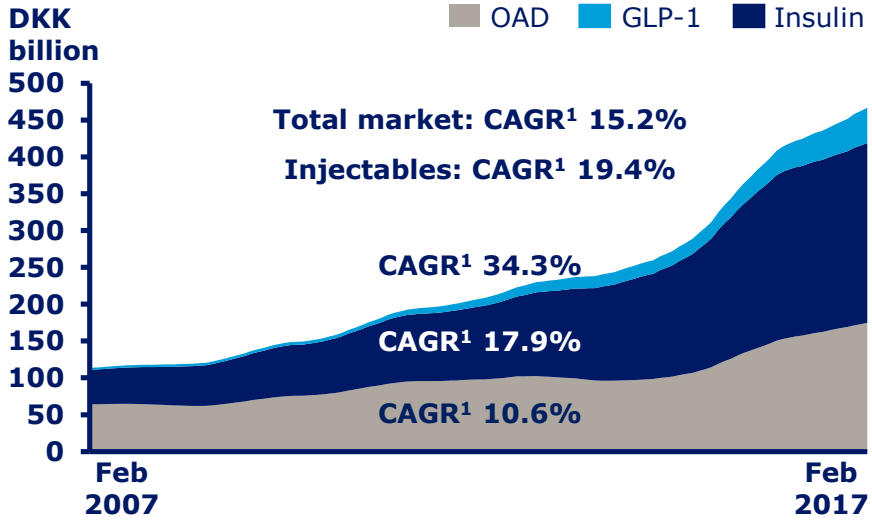
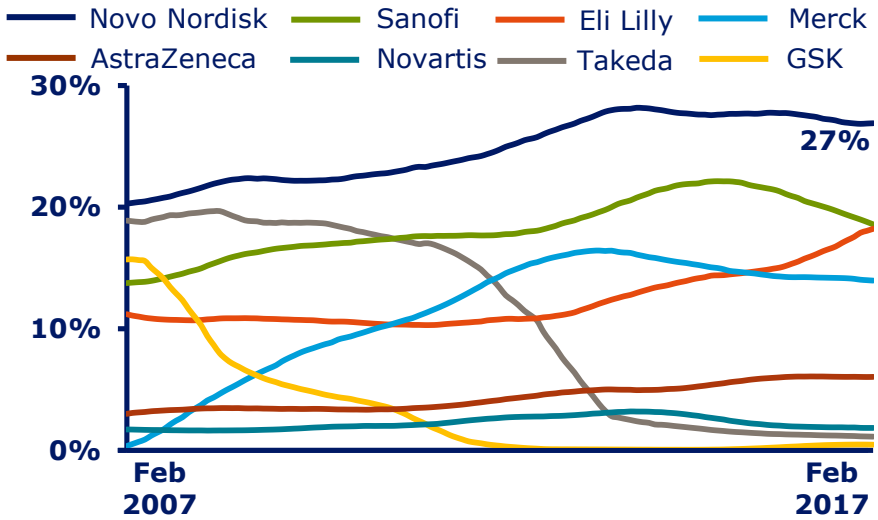
Novo Nordisk has a strong leadership position within the growing diabetes care market

Global diabetes care market by treatment class



¹ CAGR for 10-year period
OAD: Oral Anti-diabetic
Source: IMS Monthly MAT February, 2017 value figures

Global diabetes care value market share



Source: IMS Monthly MAT February, 2017 value figures

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Significant growth opportunities fuelled by strong R&D pipeline across all four strategic focus areas

PHASE 1

- LAI287 – QW basal insulin
- NN1406 – Mealtime insulin
- G530S – Glucagon analogue
- NN9838 – Amylin analogue
- NN9747 – PYY analogue
- NN9277 – GG-co-agonist
- NN9499 – FGF21 obesity
- NN9423 – Tri-agonist 1706
- NN7415 – Concizumab
- NN7170 – Sc N8-GP

PHASE 2

- Semaglutide – QD GLP-1
- Anti-IL-21 and liraglutide
- Semaglutide – QD GLP-1
- Semaglutide NASH

PHASE 3

- OG217SC – Oral GLP-1
- N8-GP – Long-acting rFVIII
- Somapacitan – QW GH[2]

SUBMITTED

- Fast-acting insulin aspart (US)
- Semaglutide – QW GLP-1
- N9-GP – Long-acting rFIV [3]

APPROVED[1]

- Levemir®
- NovoRapid®
- NovoMix®
- Tresiba®
- Ryzodeg®
- Xultophy® (EU & US)
- Victoza®
- Fiasp® (EU)
- Saxenda®
- NovoSeven®
- NovoEight®
- NovoThirteen®
- Norditropin®

Diabetes
Obesity & other
Haemophilia
Growth disorders

[1] Approved in all triad markets (US, EU and Japan), unless noted [2] Study conducted in adult growth hormone disorder [3] Positive CHMP received in the EU
GG: Glucagon GLP-1

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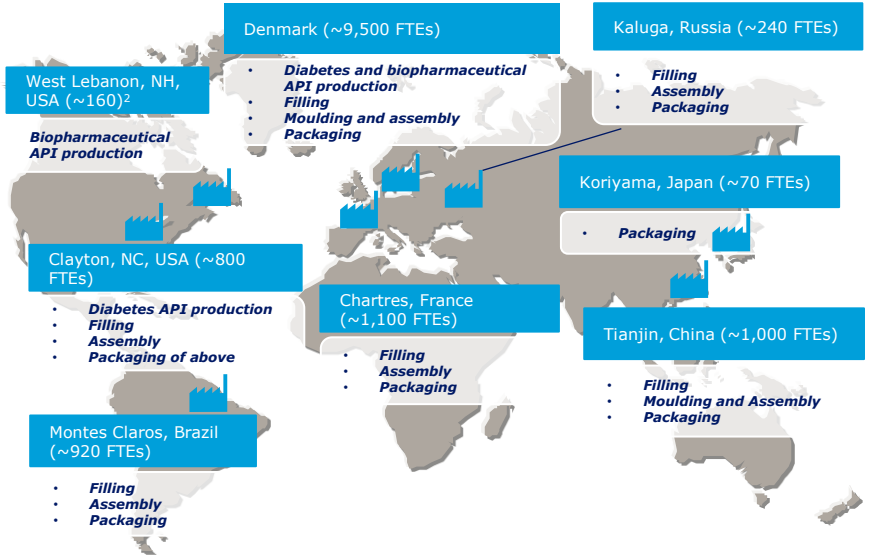
Growth opportunities supported by strong global presence in both sales and manufacturing

FTEs in sales regions[1]

North America Operations:	~4,900
Region Africa, Asia, Middle-East and Oceania (AAMEO):	~4,500
Region China:	~3,000
Region Europe:	~2,700
Region Japan & Korea:	~1,100
Region Latin America:	~850
Total non-HQ/manufacturing FTEs:	**~17,000[1]**

Global manufacturing setup



[1] FTEs represent full-time equivalents in Novo Nordisk's sales regions (excludes all other employees in headquarter, research sites and manufacturing sites) as of March 2017
[2] New Hampshire facility is currently under establishment

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Solid patent protection of innovative drugs

Novo Nordisk's position is protected by patents and value chain setup

Patent protection[1]

	EU/US
Fiasp fast-acting insulin aspart	2030[2]
Xultophy insulin degludec/liraglutide [rDNA origin] injection	2029[3]
TRESIBA insulin degludec [rDNA origin] injection	2028/29
RYZODEG 70% insulin degludec and 30% insulin aspart [rDNA origin] injection	2028/29
Levemir (insulin detemir)	2018/19
NovoMix (biphasic insulin aspart)	exp 2015/17[2]
NovoRapid (insulin aspart)	2017[2]/17[2]
VICTOZA	2023[4]/23[5]
norditropin	2017/17[2]

Unique value chain position

- Research & Development
- Manufacturing
- Commercialisation

- History of protein engineering
- Highly efficient, flexible and capital intensive manufacturing
- Global commercial footprint

Barriers to entry for biosimilar players

Research & Development

- Need to show comparability in PK/PD trials
- Strict regulatory requirements in EU and the US
- Requirement for both drug and device offering

Manufacturing

- Economies of scale for incumbents
- Up-front CAPEX requirements with slow return on investment

Commercialisation

- Large and fragmented target audience
- Cost pressure from payers
- On-going conversion to next generation drugs and slow market dynamics

[1] List does not include all marketed Novo Nordisk products. [2] Formulation patent expiration year
[3] Protected by patents on the individual compounds insulin degludec and liraglutide as listed.
[4] Assuming paediatric extension. [5] Saxenda patent identical to the Victoza® patent.
Source: Novo Nordisk

PK: Pharmacokinetic, PD: Pharmacodynamic; CAPEX: Capital expenditure

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Diabetes and obesity

Diabetes – the inability to manage blood sugar levels appropriately

Facts about diabetes

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces

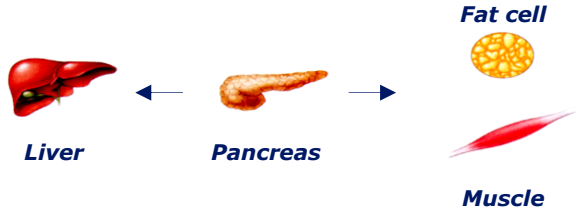
Primary classifications:

Type 1 diabetes: Complete insulin deficiency due to destruction of beta-cells in the pancreas

Type 2 diabetes: Characterised by some degree of insulin resistance and insulin deficiency

Insulin:

- Facilitates uptake of blood sugar into cells
- Inhibits glucose release from the liver



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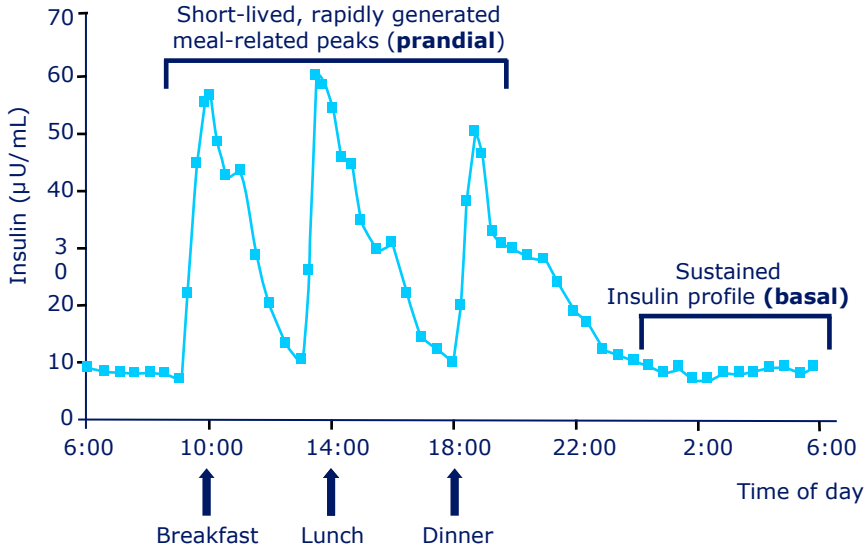
The aim of insulin therapy is to recreate normal blood insulin profile



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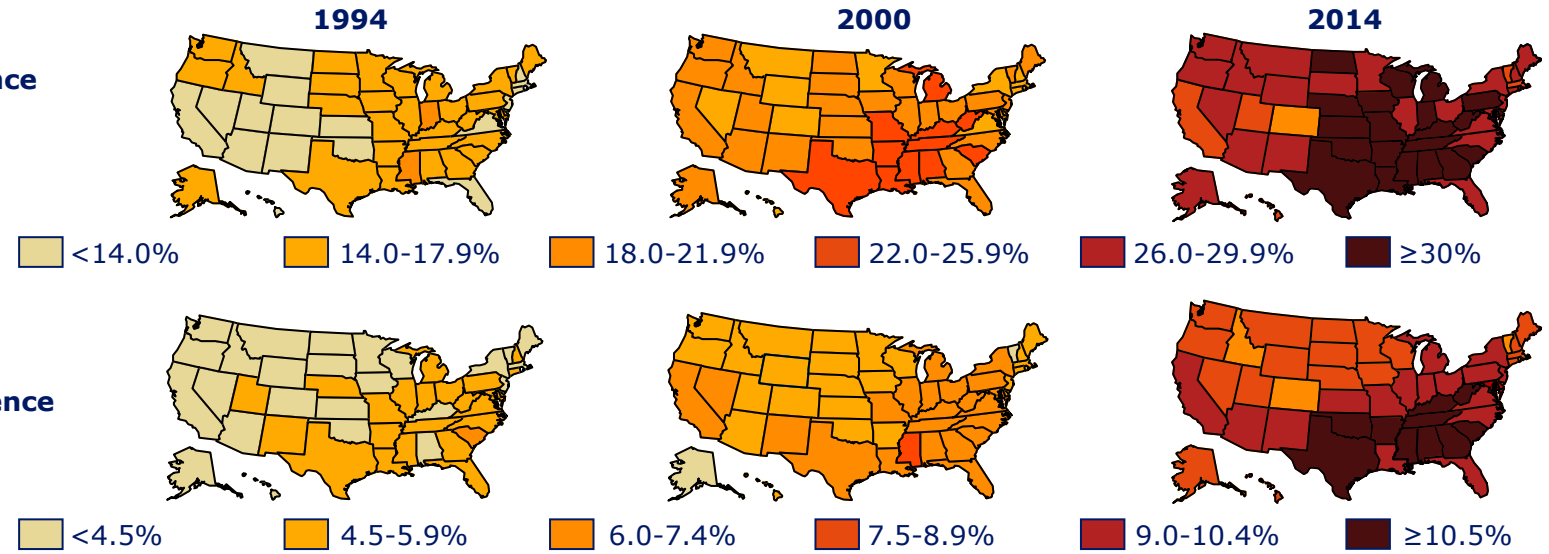
Diabetes pandemic is fuelled by growing rates of obesity

US CDC data on obesity and diabetes prevalence among adults



CDC: Centers for Disease Control and Prevention
Source: CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at http://www.cdc.gov/diabetes

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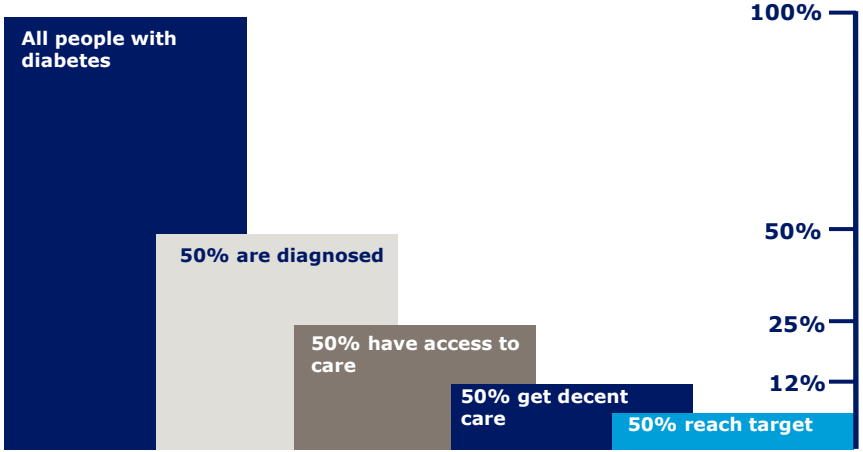
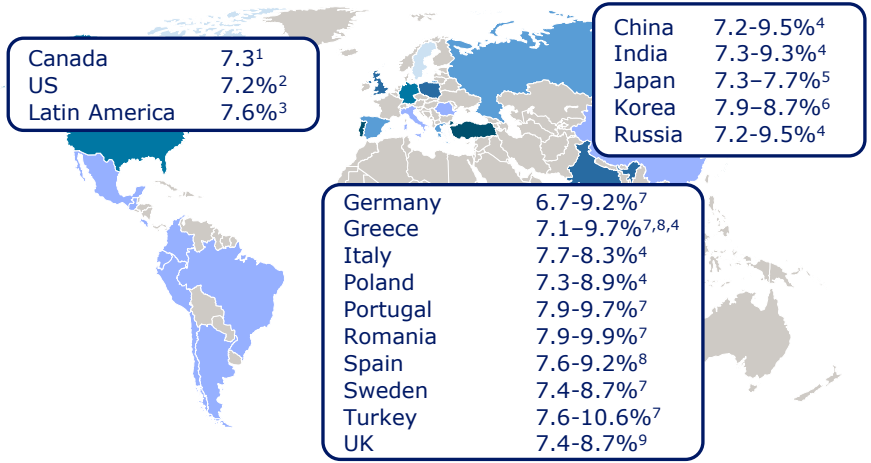
Poor diagnosis rates, lack of access to optimal treatment and poor glycaemic control remain global problems

Diagnosis and optimal treatment remains a challenge – the rule of halves



The worldwide challenge of glycaemic control: Mean HbA_{1C} in type 2 diabetes



[1] Harris et al. Diabetes Res Clin Pract 2005;70:90–7; [2] Hoerger et.al. Diabetes Care 2008;31:81–6; [3] Lopez Stewart et al. Rev Panam Salud Publica 2007;22:12–20; [4] Valensi et al. Int J Clin Pract 2009;63(3):522-31; [5] Arai et al. J Diabetes Investig. 2012 Aug 20;3(4):396-401; [6] Ko et al. Diab Med 2007;24:55–62; [7] Oguz et al. Curr Med Res Opin 2013;29:911–20; [8] Liebl et al. Diab Ther 2012;3:e1–10; [9] Blak et al. Diab Med 2012;29:e13-20

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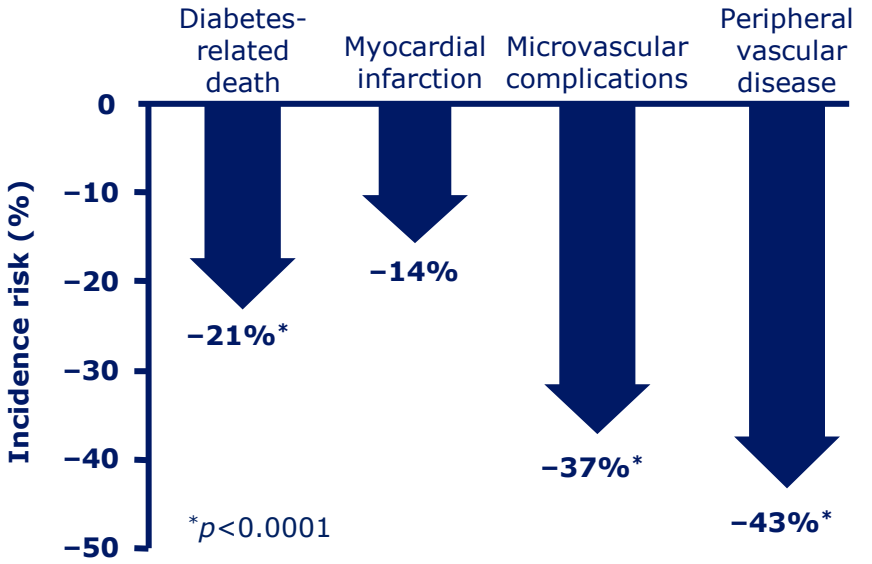
UKPDS: Tight glycaemic control reduces risk of micro- and macrovascular complications

Risk reduction by lowering HbA_{1c} by 1%-point



Source: UKPDS, Stratton et al. BMJ 2000; vol. 321:405–12

UKPDS 10 year follow-up: Legacy effect of tight glycaemic control

Relative risk reduction of intensive vs. conventional treatment (%)

SU/Insulin treated patients	1997	2007
Microvascular disease	25	24
Diabetes-related death	10	17
Myocardial infarction	16	15
All-cause mortality	6	13

Statistically significant improvement

Source: NEJM, vol. 359, Oct 2008

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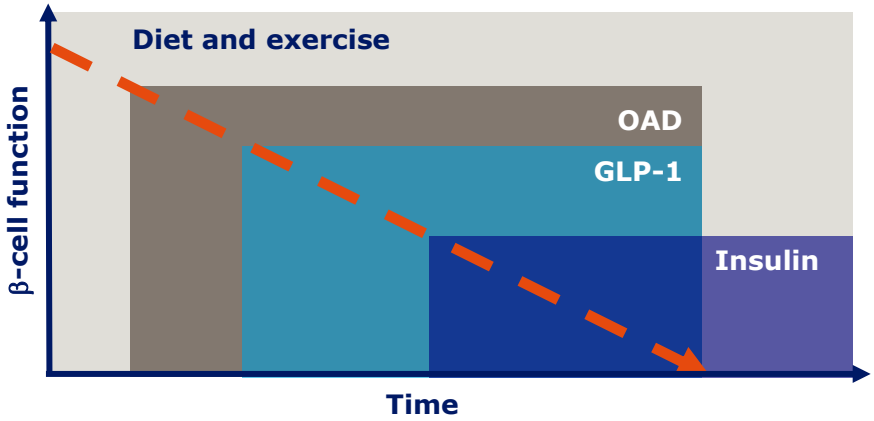
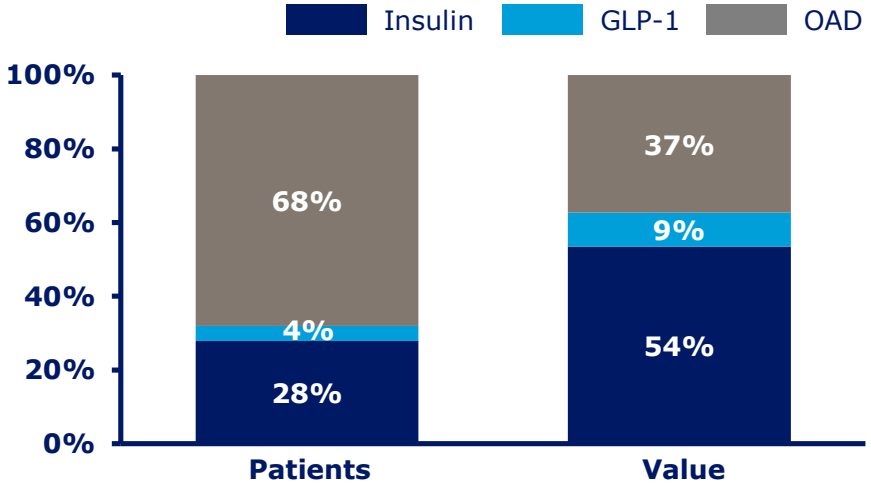
Insulin is the ultimate care for people with diabetes

Progression of type 2 diabetes and treatment intensification



OAD: Oral anti-diabetic

Distribution of patients and value across treatment classes



Note: Patient distribution across treatment classes is indicative and based on data for US, UK, Germany and France. Value figures based on IMS MAT February 2017
Source: IMS PharMetrix claims data, IMS disease analyser, IMS Midas

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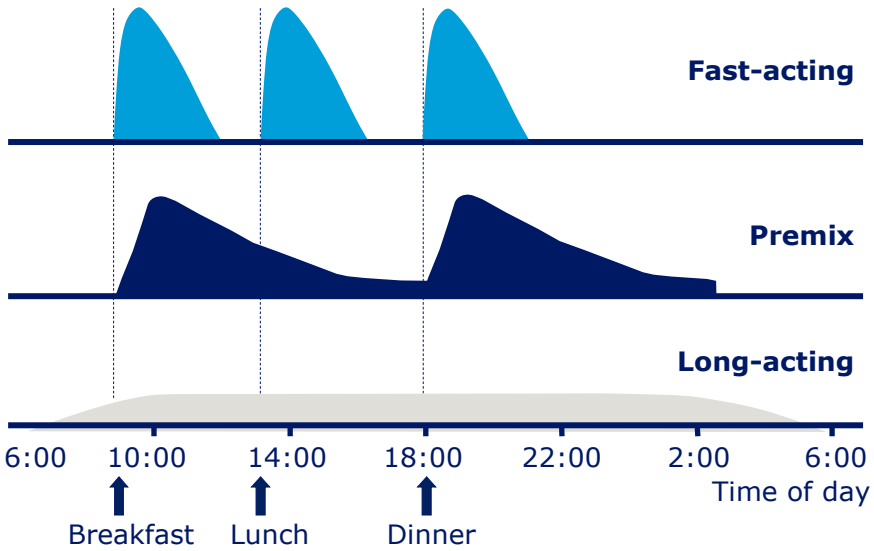
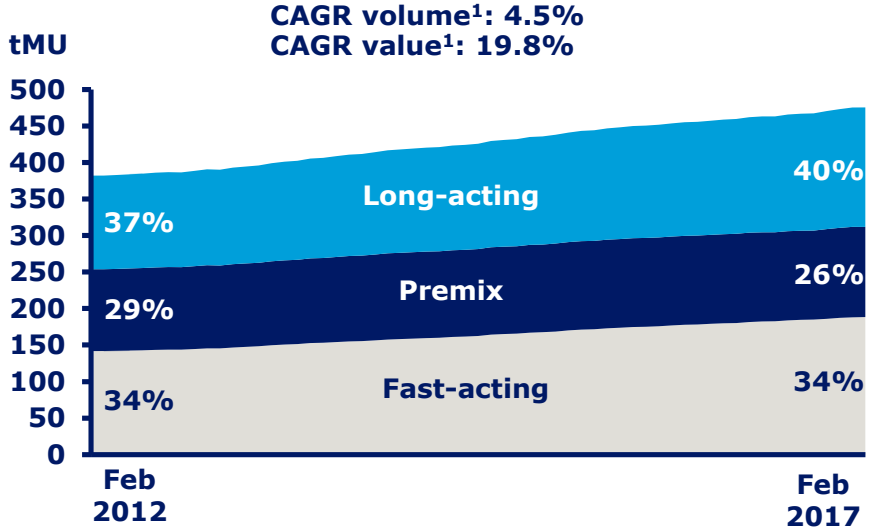
The insulin market is comprised of three segments

Insulin action profiles



Global insulin volume market by segment



[1] CAGR for 5-year period. Value in DKK
Note: US trend data reflect changes to IMS data collection coverage and methodology as of January 2012
Source: IMS Monthly MAT volume and value February 2017 (DKK) figures

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Medications used for the treatment of type 2 diabetes

Commonly prescribed products for the treatment of type 2 diabetes

Class	HbA_{1c} change	Hypo-glycaemia	Weight change	CVD risk factors	Dosing (pr. day)	Contraindication/ undesired effects
Metformin	1.5	No	Neutral	Minimal	2 OADs	Kidney, liver
Sulfonylurea	1.5	Yes	Gain	None	1 OAD	Essentially none
TZDs	0.5 - 1.4	No	Gain	Varies	1 OAD	CHF, liver
DPP-IV inhibitors	0.6 - 0.8	No	Neutral	TBD	1-2 OAD	None
SGLT-2 inhibitors	0.5 - 0.9	No	Loss	Varies	1 OAD	Genital infections, urinary tract infections
GLP-1	1.0 - 2.0	No	Loss	Varies	Varies	GI side effects, MTC
Long-acting insulin	1.5 - 2.5	Yes	Gain	TG and HDL	1 injection	Hypoglycaemia
Fast-acting insulin	1.5 - 2.5	Yes	Gain	TG and HDL	1-4 injections	Hypoglycaemia

Note: TG and HDL: Beneficial effect on triglycerides and HDL cholesterol; CHF: Congestive heart failure; GI: Gastro intestinal; MTC: Medullary thyroid cancer; TZD: thiazolidinediones; OAD: Oral anti-diabetic; TBD: to be defined.
Sources: Adapted from: Nathan DM, et al. Diabetes Care. 2006; 29:1963-1972; Nathan DM, et al. Diabetes Care. 2007;30:753-759; Nathan DM, et al. Diabetes Care. 2008;31:173-175. ADA. Diabetes Care. 2008;31:S12-S54. WelChol PI. 1/2008.

Solid position in the diabetes care market across all regions with leading insulin market share

Regions	Diabetes care value market composition	Diabetes care value market share	Insulin volume market composition	Insulin volume market share
North America	30% / 12% / 58%	71% / 29%	52% / 38% / 10%	63% / 37%
Region Europe	43% / 10% / 47%	72% / 28%	41% / 41% / 19%	55% / 45%
Region AAMEO[1]	54% / 44% / 2%	76% / 24%	25% / 26% / 49%	43% / 57%
Region China[1]	47% / 1% / 52%	69% / 31%	16% / 21% / 62%	46% / 54%
Region Japan & Korea	80% / 16% / 4%	89% / 11%	39% / 38% / 23%	51% / 49%
Region Latin America	69% / 27% / 5%	85% / 15%	74% / 19% / 7%	58% / 42%

AAMEO: Africa, Asia, Middle-East and Oceania
[1] IMS only covers part of the channels in Region AAMEO and Region China
Source: IMS February, 2017 Monthly MAT volume and value (DKK) figures

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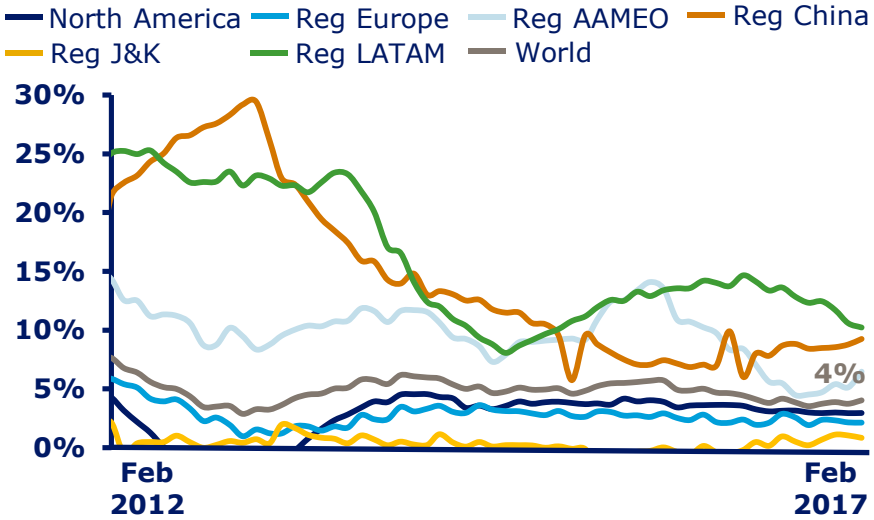
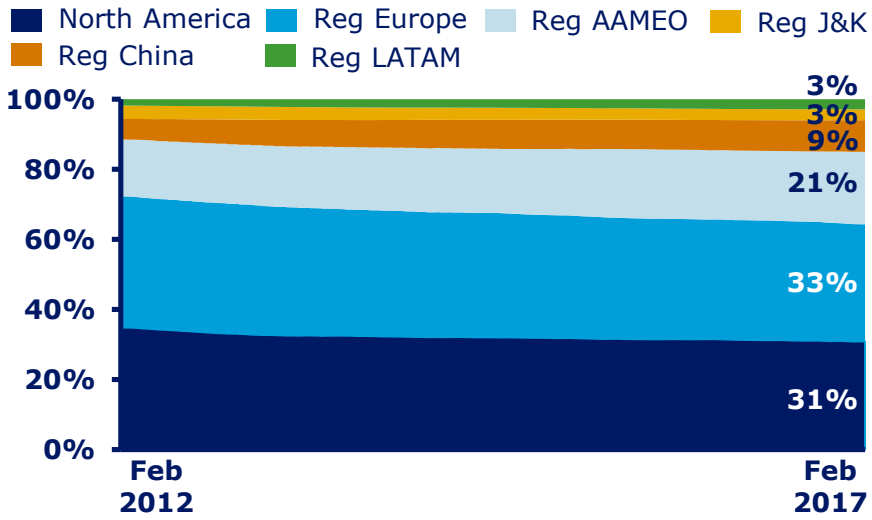
Stable global insulin volume growth

Regional insulin volume growth



Reg: Region; J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
Note: Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS Monthly MAT February, 2017 volume figures

Regional insulin volume market split



Reg: Region; J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
Note: Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS Monthly MAT February, 2017 volume figures

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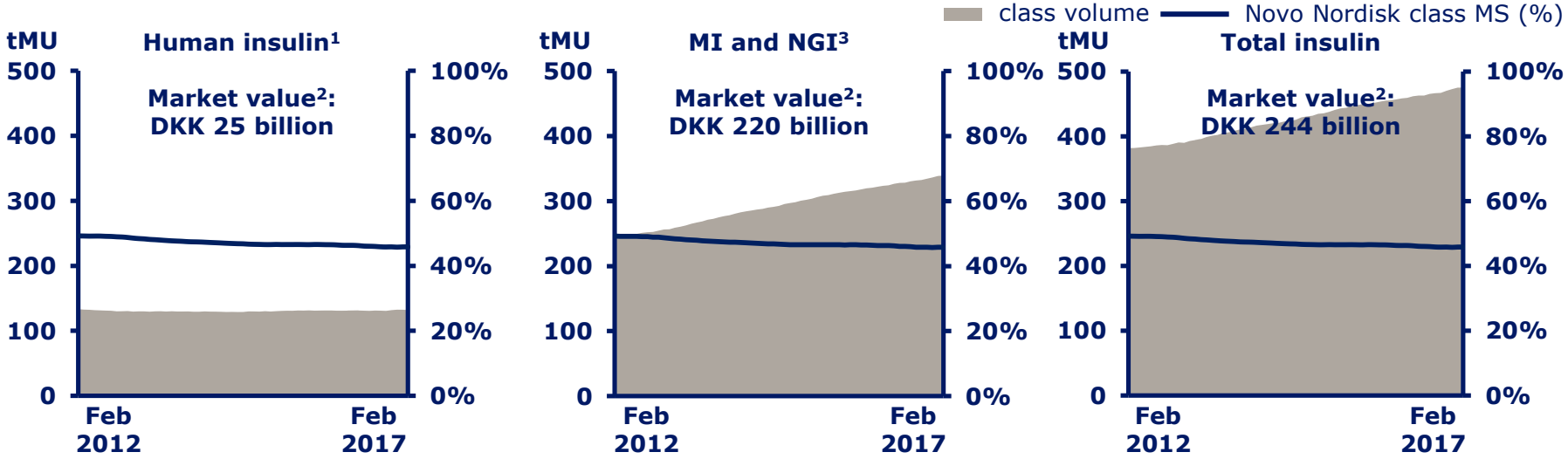
Maintaining global insulin leadership by sustaining modern and new generation insulin market share

Novo Nordisk global volume market share across insulin classes



[1] Includes animal insulin. [2] Annual value of total insulin class. [3] MI: Modern insulin. NGI: New generation insulin
Note: Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS, Monthly MAT February, 2017 value and volume figures

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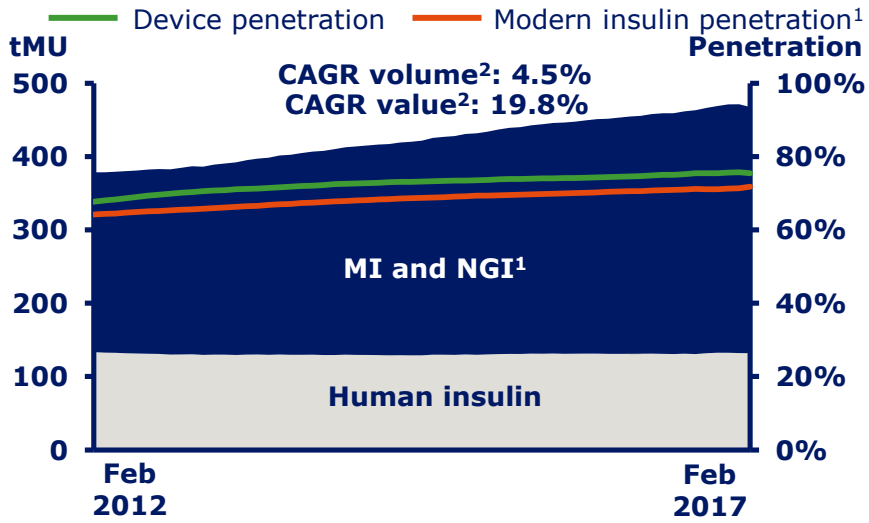
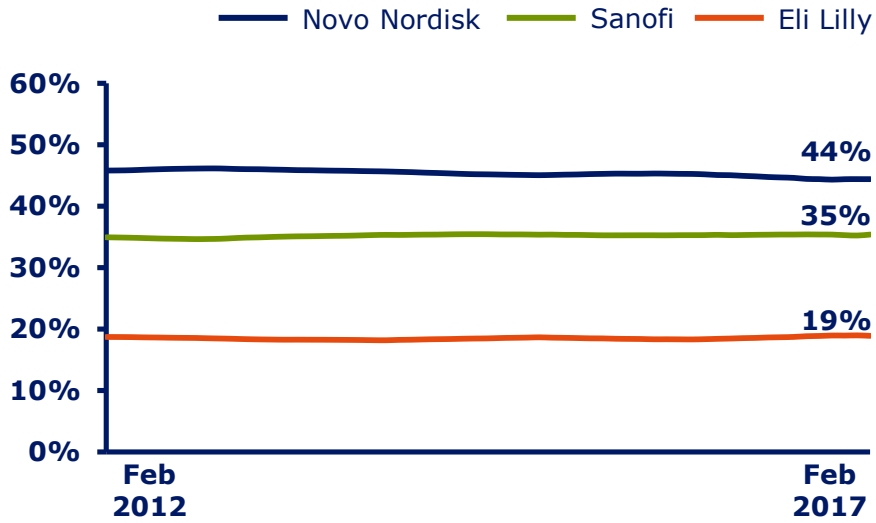
Strong underlying insulin market growth and sustained global volume market share

Global insulin market



[1] MI: Modern insulin. NGI: New-generation insulin [2] CAGR for 5-year period
Note: Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures

Global modern and new generation insulin volume market shares



Note: Data is sensitive to changes in IMS data collection and reporting methodology, does not add up to 100% due to other players
Source: IMS Monthly MAT February, 2017 volume figures

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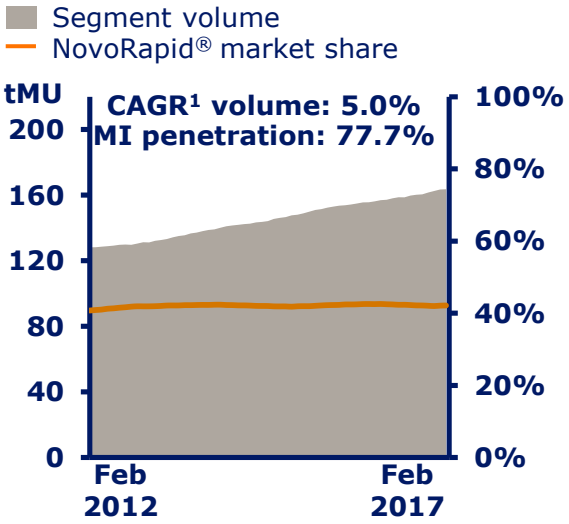
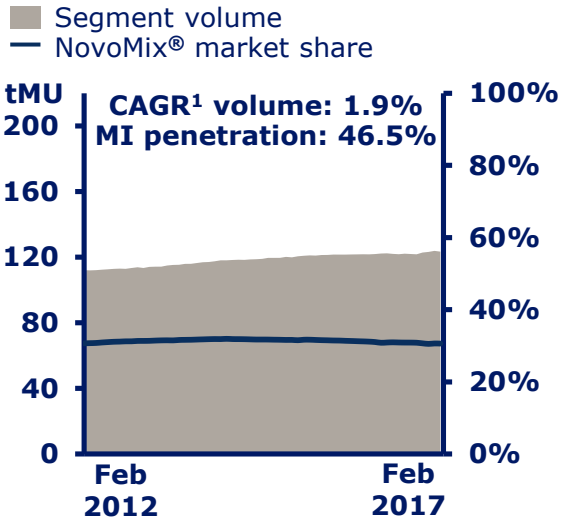
Continued global single digit volume growth within the modern insulin segments

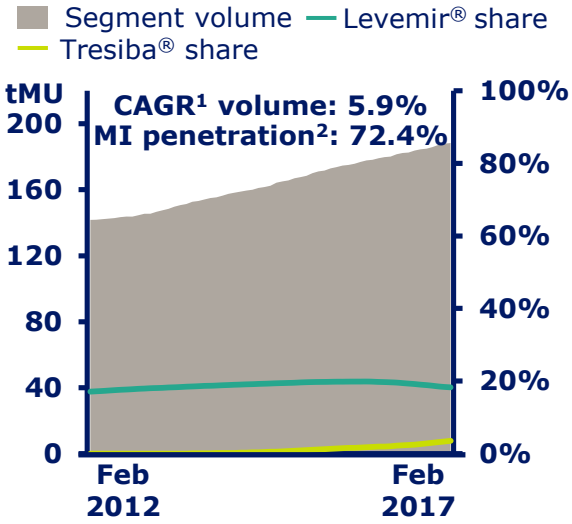
Fast-acting insulin



Premix insulin



Long-acting insulin



¹ CAGR for 5-year period
² Includes new-generation Insulin
Note: Modern insulin (MI) penetration is of total segment, ie including animal and human insulin; Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS Monthly MAT February, 2017 volume figures

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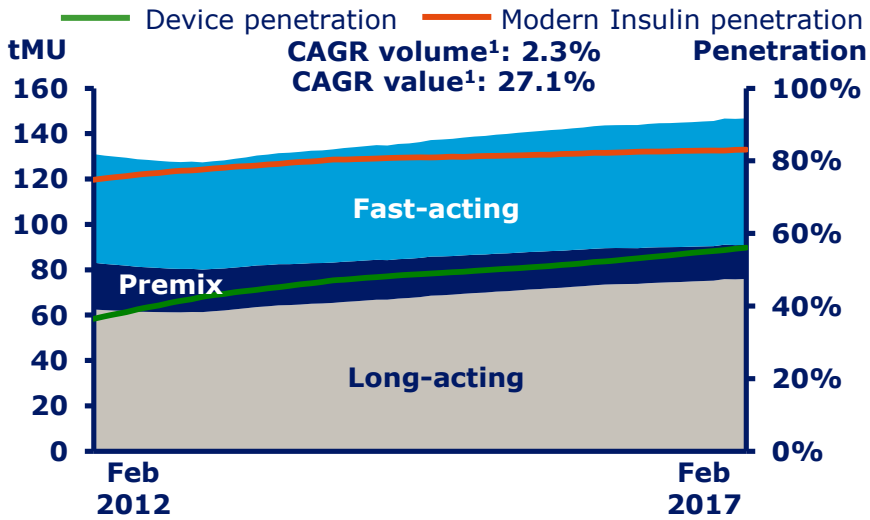
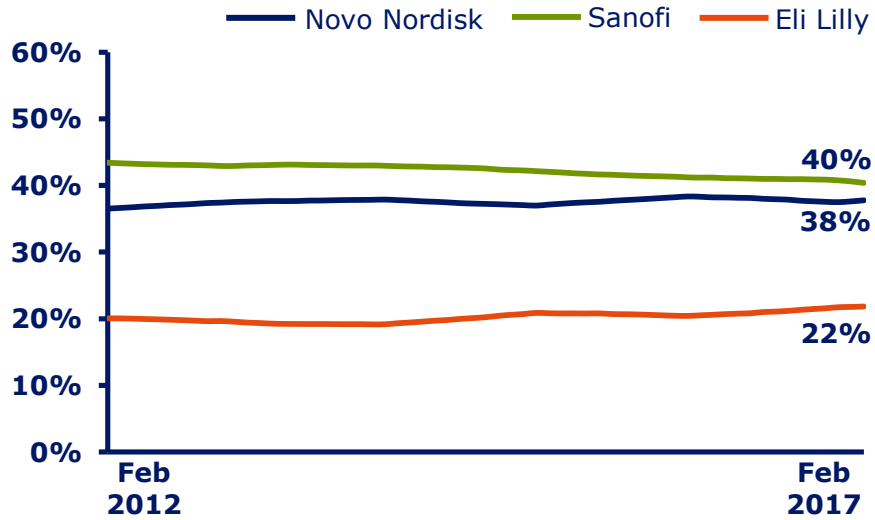
Solid US market share within the modern and new generation insulin segment

Insulin market by segments in the US



¹ CAGR for 5-year period
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures

MI and NGI volume market shares in the US



Source: IMS Monthly MAT February, 2017 volume figures

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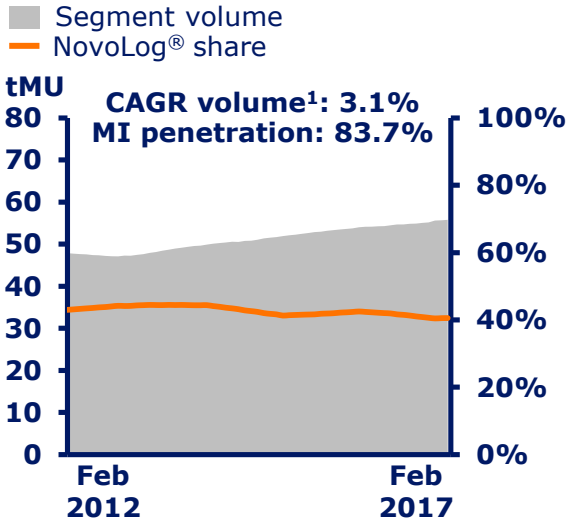
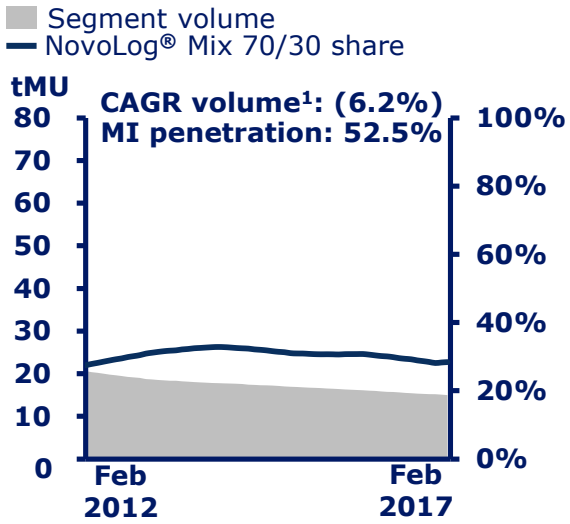
Novo Nordisk's modern insulins maintain market share in the US insulin market

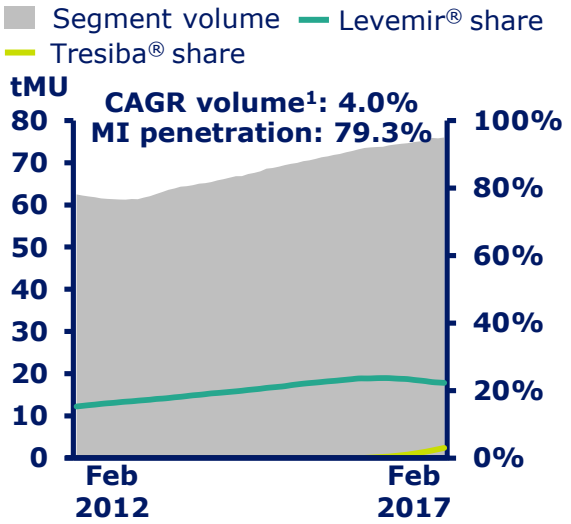
US fast-acting insulin



US premix insulin



US long-acting insulin



[1] CAGR for 5-year period
Note: US trend data reflect changes to IMS data collection coverage and methodology as of January 2012. Modern insulin (MI) penetration is of total segment, ie including human insulin
Source: IMS Monthly MAT February, 2017 volume figures

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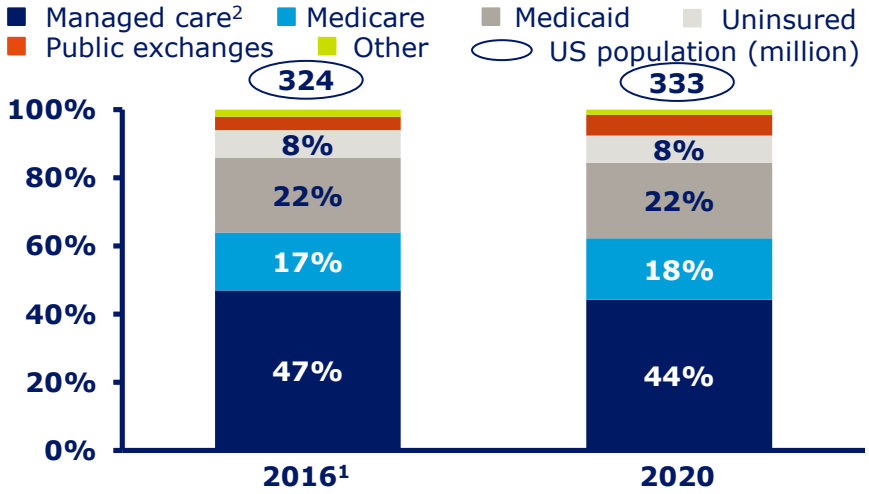
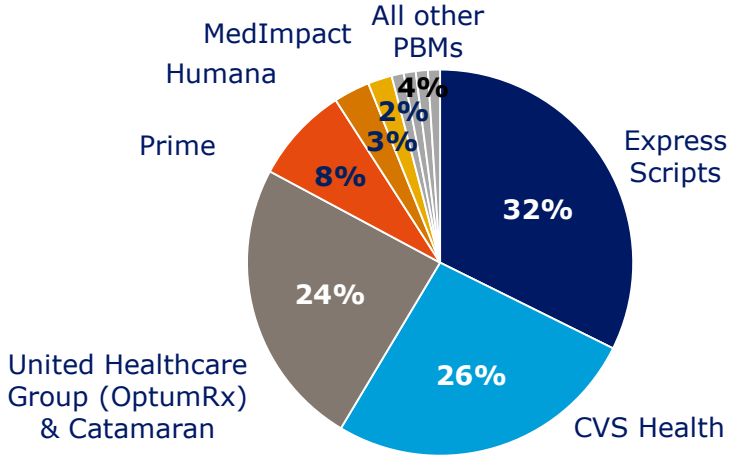
US health insurance is dominated by few large commercial payers with slow expansion of public insurance coverage

US Population by health insurance status expected to remain stable in coming years



In 2016 PBMs covered 266 million lives and the market has consolidated



¹ 2016 Data reflect historical data in Jan 2016
² Managed care population was slightly underestimated as only population under age 65 were captured to avoid double counting with those eligible for Medicare.
Source: Congressional Budget Office Health Insurance Coverage 2016-2026; Medicare Enrollment Dashboard; CMS Health Insurance Enrollment Projection 2015-2025; Medicaid and CHIP Enrollment Report Jan. 2016

PBM: Pharmacy Benefit Manager
Note: Covers all main channels (Managed Care, Medicare Part D and Medicaid); market share based on claim adjudication coverage, i.e. not on formulary/rebate decision power
Source: Cleveland Research PBM Intelligence 2016

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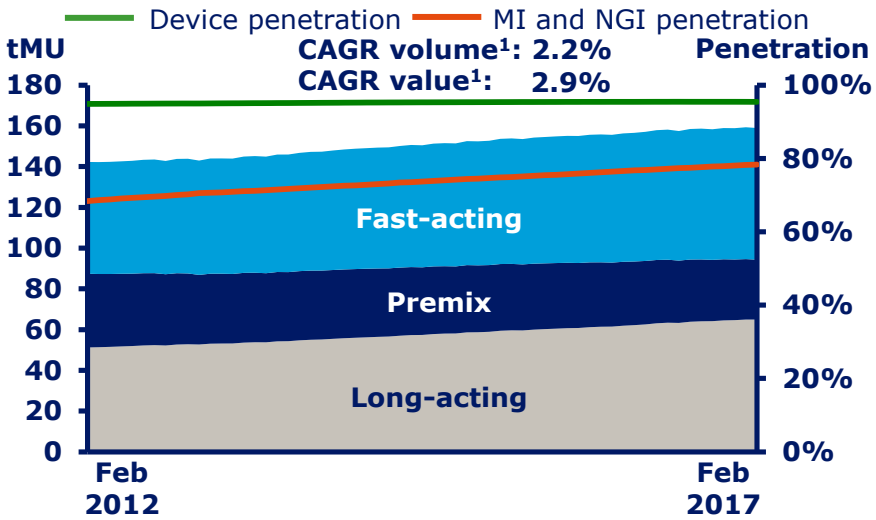
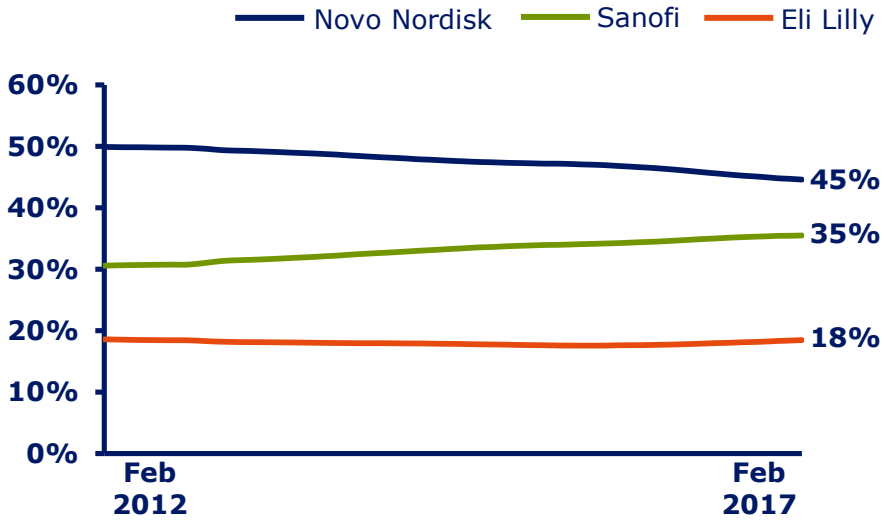
Maintained leadership position in the European modern and new generation insulin market

European insulin market by segments



[1] CAGR for 5-year period
[2] MI: Modern insulin; NGI: New-generation insulin
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures

European MI and NGI volume market shares



MI: Modern insulin; NGI: New-generation insulin
Source: IMS Monthly MAT February, 2017 volume figures, numbers do not add up to 100% due to smaller insulin manufacturers

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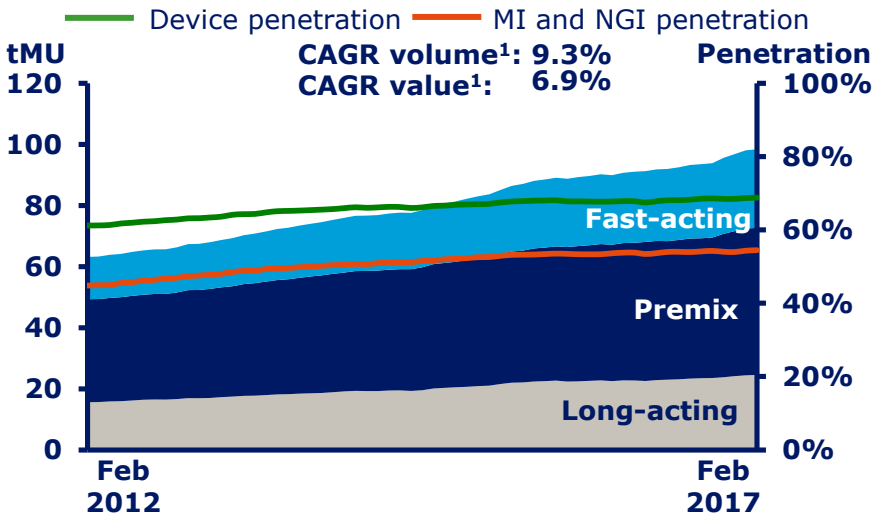
Stable leadership position in Africa, Asia, Middle-East and Oceania (AAMEO)

AAMEO insulin market by segments



[1] CAGR for 5-year period. [2] Includes new generation insulin.
Note: IMS only covers the following 8 markets in AAMEO (retail data): Algeria, Egypt, India, New Zealand, Russia, Saudi Arabia, South Africa & Turkey
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures
MI: Modern insulin; NGI: New-generation insulin

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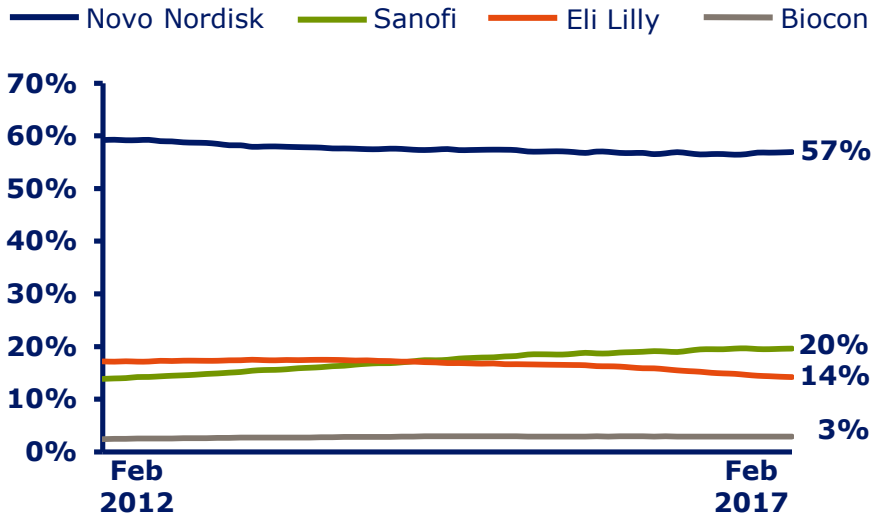
AAMEO MI and NGI volume market shares



Source: IMS Monthly MAT February, 2017 volume figures, numbers do not add up to 100% due to smaller insulin manufacturers
MI: Modern insulin; NGI: New-generation insulin

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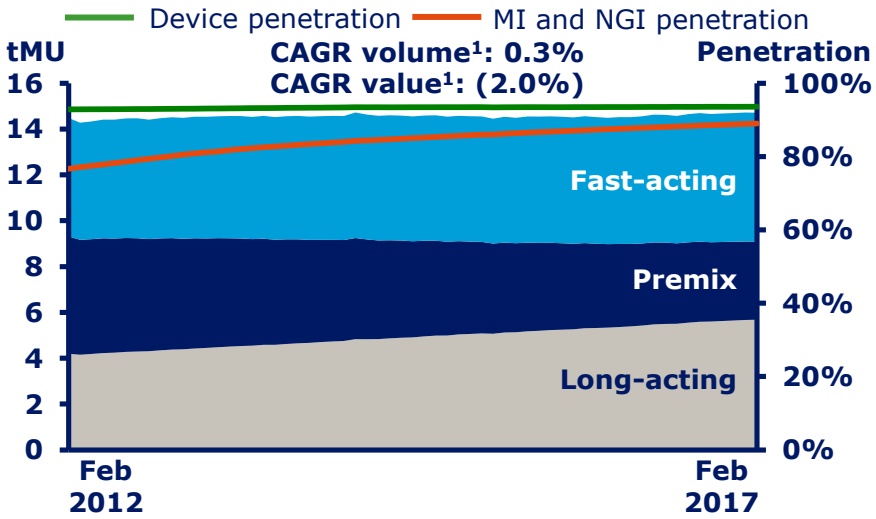
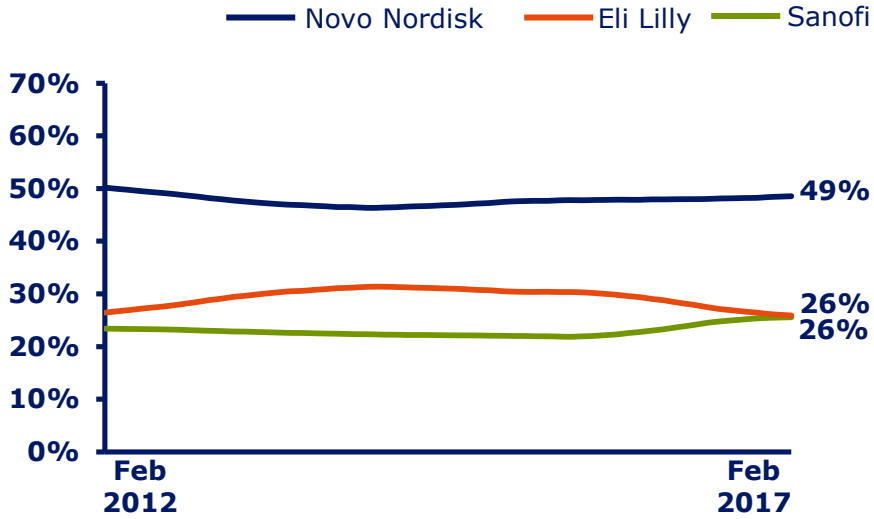
Solid market leadership position in Japan & Korea

Japan & Korea insulin market by segments



[1] CAGR for 5-year period
MI: Modern insulin; NGI: New-generation insulin
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures

Japan & Korea MI and NGI volume shares



Source: IMS Monthly MAT February, 2017 volume figures
MI: Modern insulin; NGI: New-generation insulin

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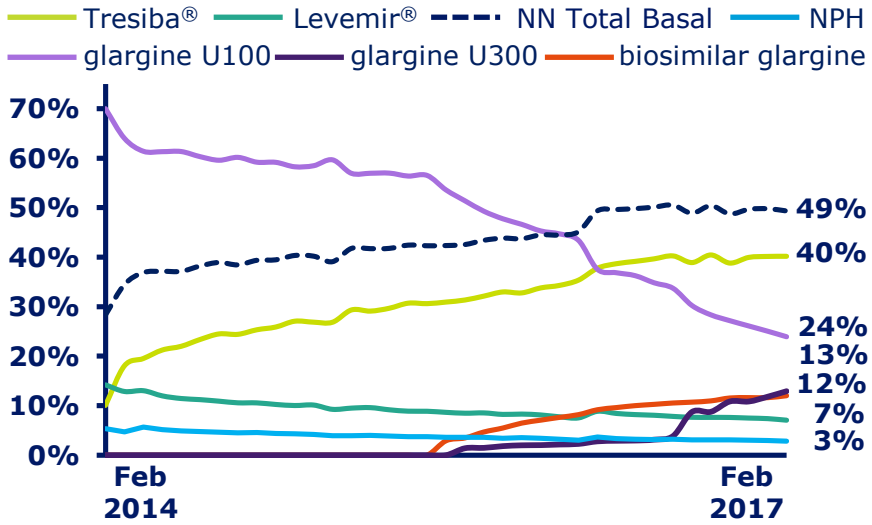
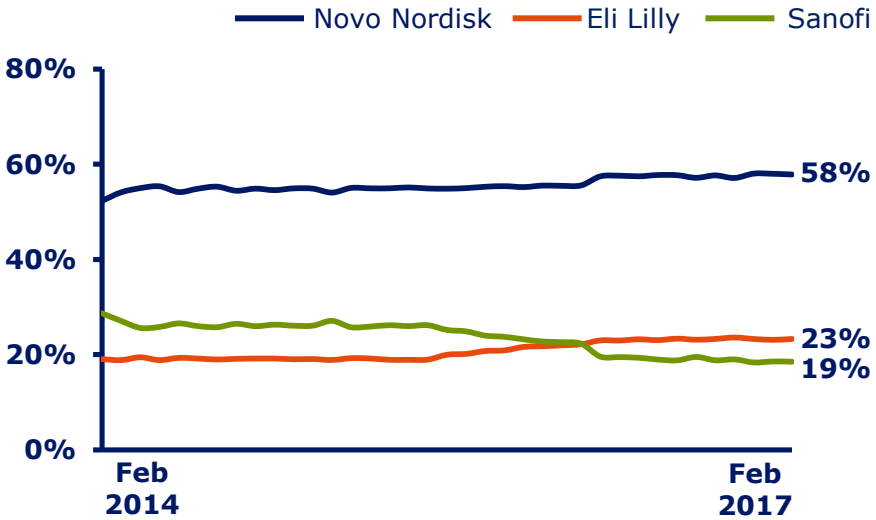
Solid Tresiba® performance strengthens basal insulin market share in Japan

Japanese basal value market shares



Source: IMS Monthly February, 2017 value figures

Japanese total insulin value market shares



Source: IMS Monthly February, 2017 value figures

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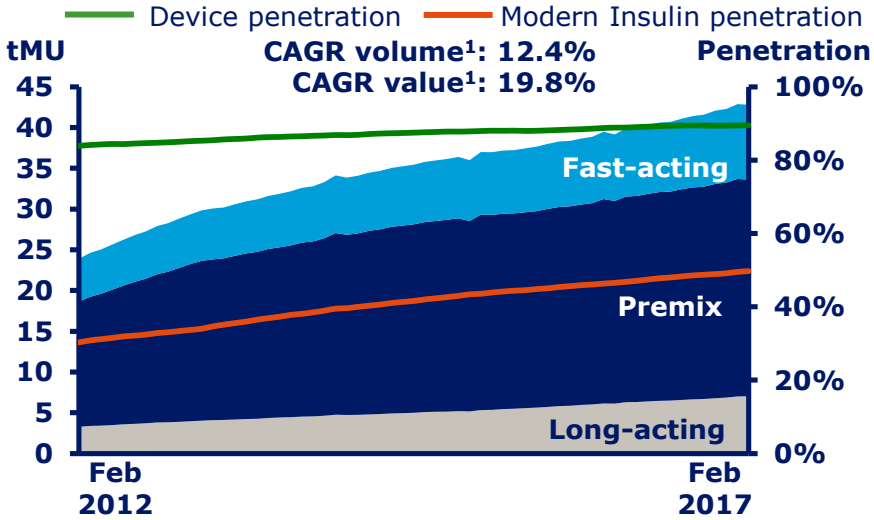
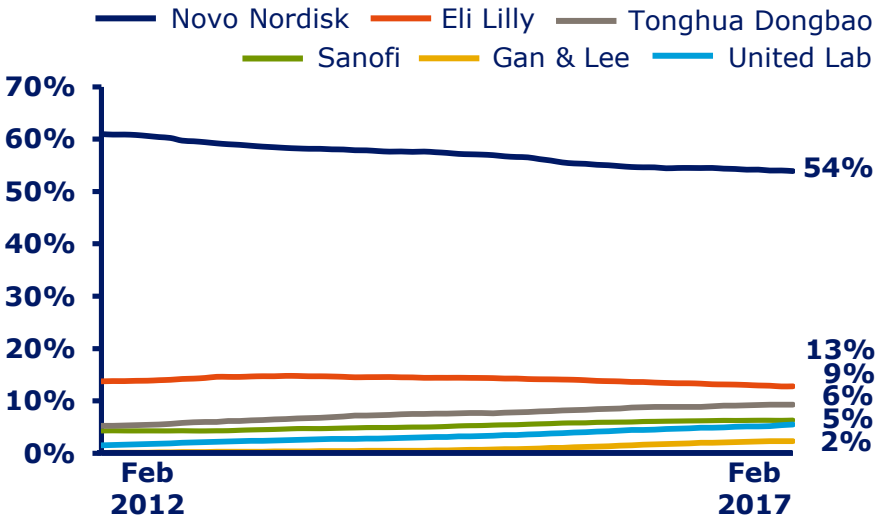
Solid growth in the Chinese insulin market

Chinese insulin market by segments



[1] CAGR for 5-year period
Note: IMS covers around 50% of the total Chinese market (hospital data)
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures

Chinese insulin volume market shares



Note: Only selected competitors shown
Source: IMS Monthly MAT February, 2017 volume figures, numbers do not add up to 100% due to smaller insulin manufacturers not included

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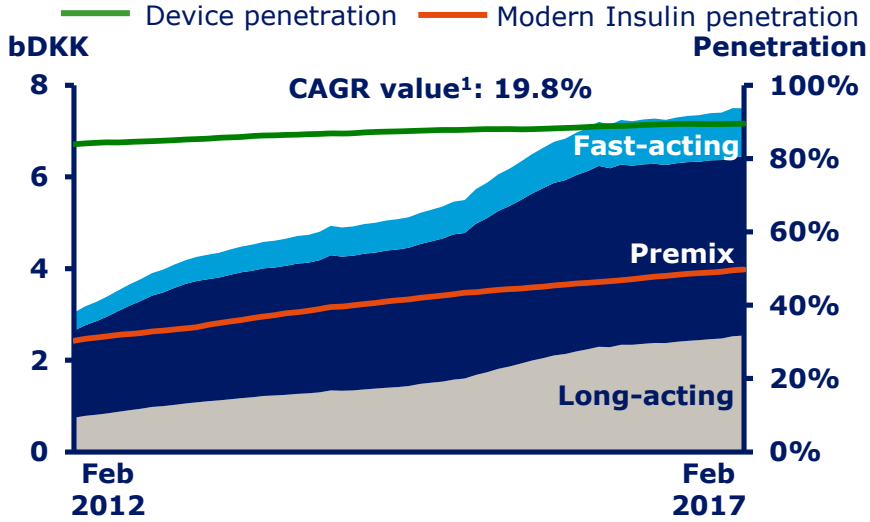
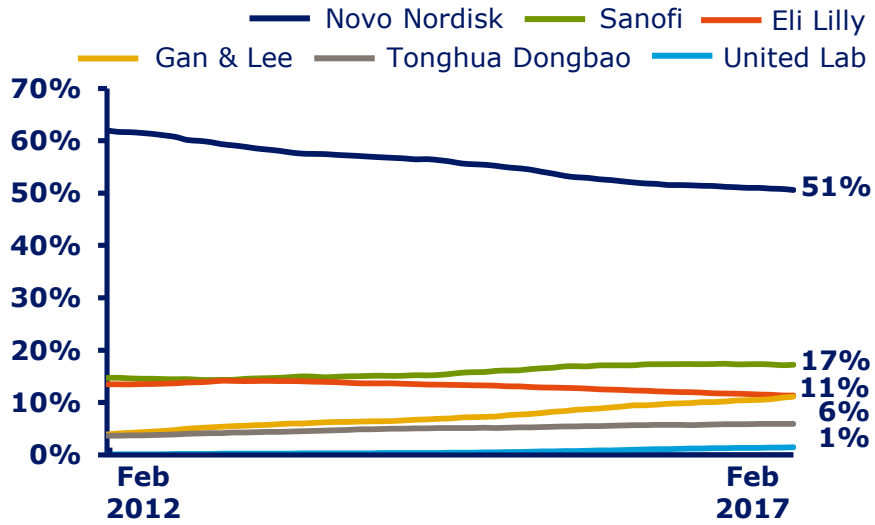
Continued expansion of the modern insulin market in China

Chinese insulin market by segments



¹ CAGR for 5-year period
Note: IMS covers around 50% of the total Chinese market (hospital data)
Source: IMS Rolling MAT February, 2017 value (DKK) figures

Chinese total insulin value market shares



Note: Only selected competitors
Source: IMS Rolling MAT February, 2017 value figures, numbers do not add up to 100% due to smaller insulin manufacturers not included

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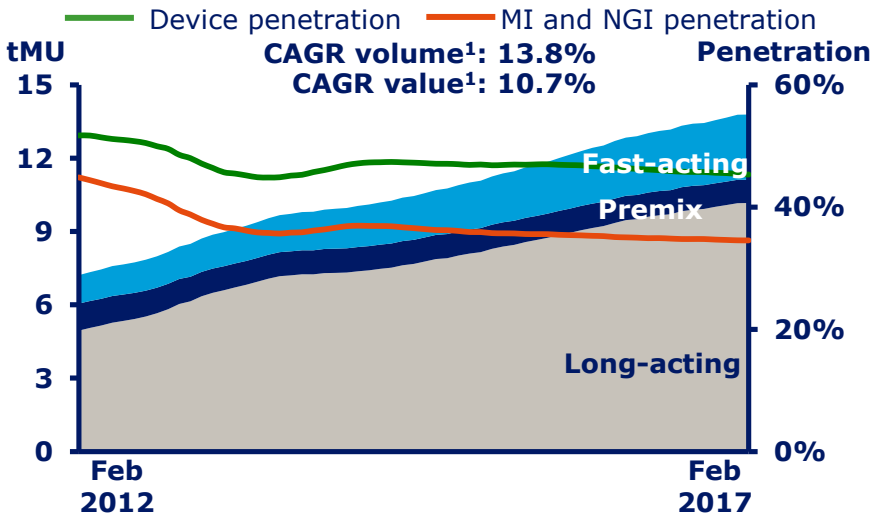
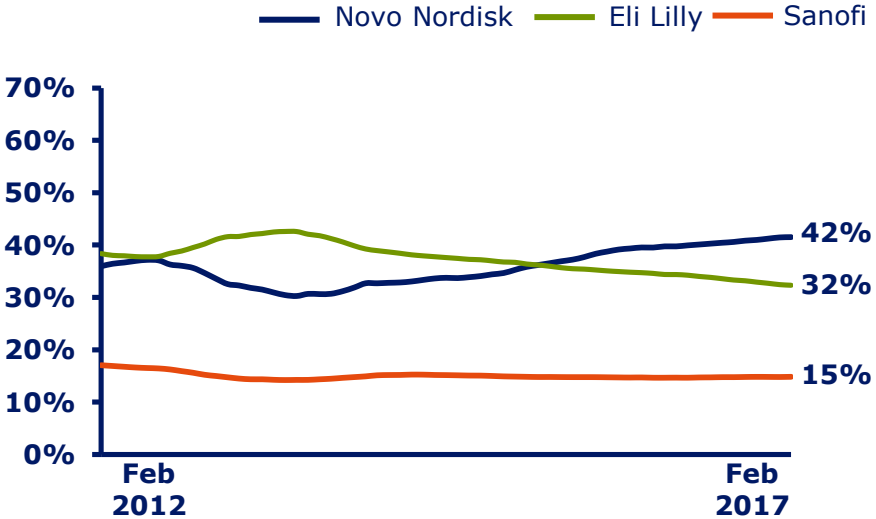
Strengthened insulin volume market share in Latin America

Latin America insulin market by segments



[1] CAGR for 5-year period
Note: IMS only covers the following 4 markets in LATAM (retail data): Argentina, Brazil, Colombia, Mexico
Source: IMS Monthly MAT February, 2017 volume and value (DKK) figures
MI: Modern insulin; NGI: New-generation insulin

Latin America MI and NGI volume shares



Note: Only top-3 shown
Source: IMS Monthly MAT February, 2017 volume figures, numbers do not add up to 100% due to smaller insulin manufacturers not included
MI: Modern insulin; NGI: New-generation insulin

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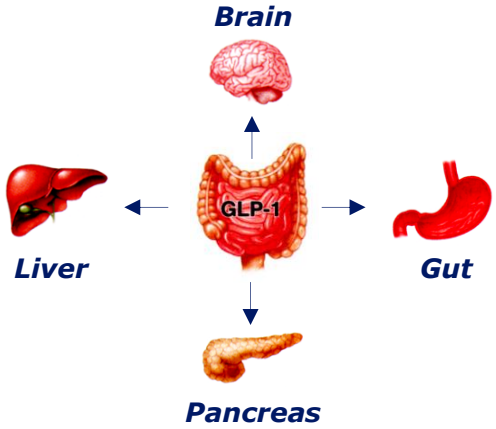
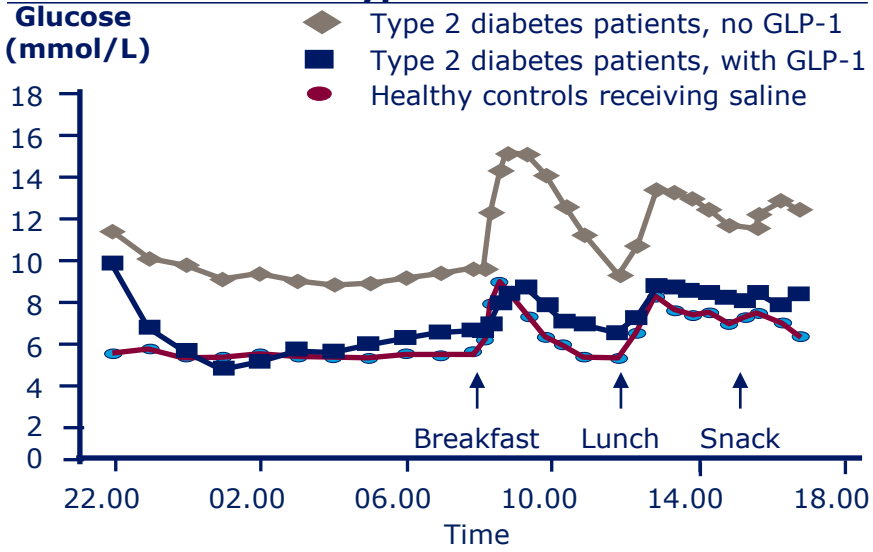
GLP-1 effect dependent on level of blood glucose – which reduces risk of hypoglycaemia

GLP-1 mechanism of action when blood sugar levels increase

- Increases insulin secretion in the pancreas
- Reduces glucagon secretion in the liver
- Slows gastric emptying in the gut
- Creates sense of satiety in the brain



GLP-1 lowers blood glucose in patients with type 2 diabetes



Source: Rachman et al. Diabetologia 1997;40:205–11

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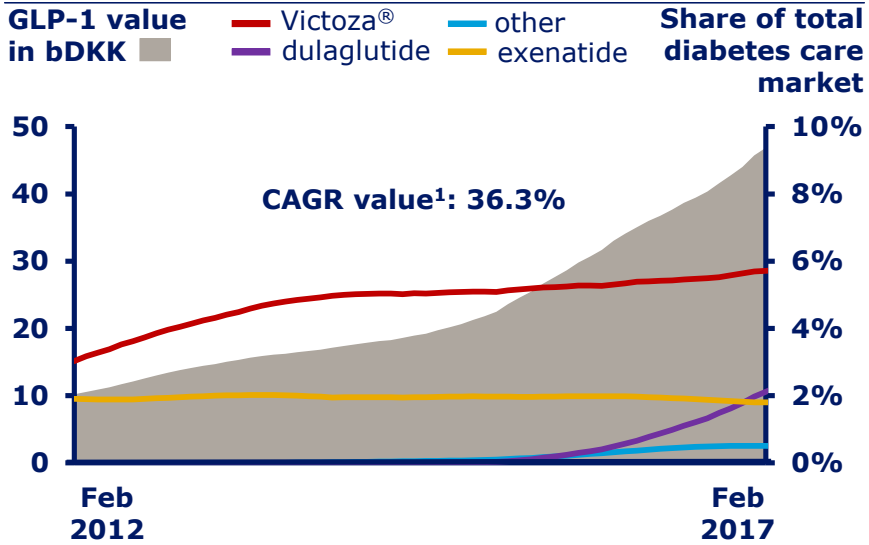
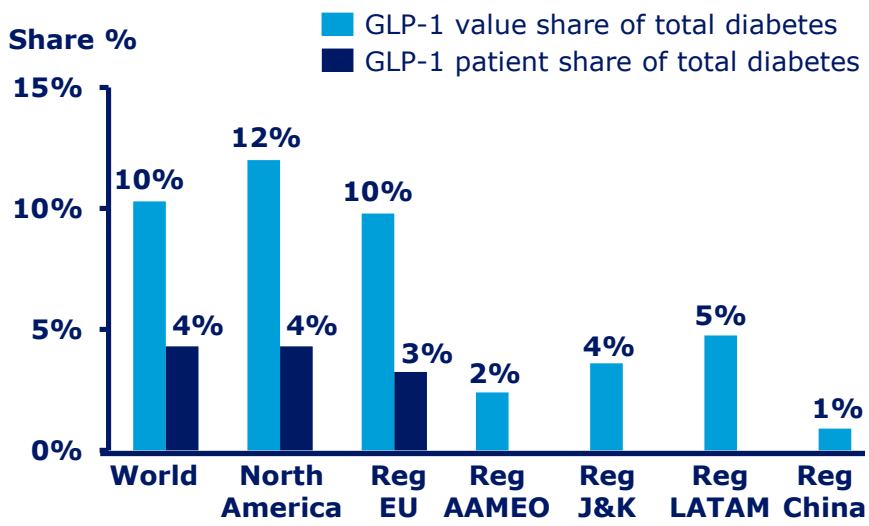
The combined GLP-1 segment accounts for around 10% with rapid value market growth

Global GLP-1 market



GLP-1 value and patient share of the total diabetes market



¹ CAGR for 5-year period
Source: IMS Monthly MAT February, 2017 value figures (DKK)

AAMEO: Africa, Asia, Middle-East and Oceania; J&K: Japan & Korea; LATAM: Latin America
Note: Patient share is indicative and based on data for US, UK, Germany and France.
Source: Patient data; IMS PharMetrix claims data, IMS disease analyser, IMS Midas Value data; IMS MAT February 2017

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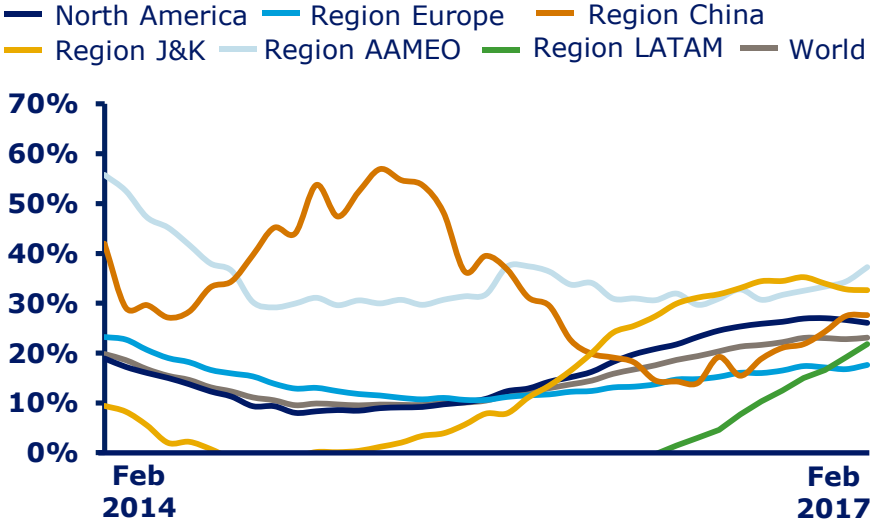
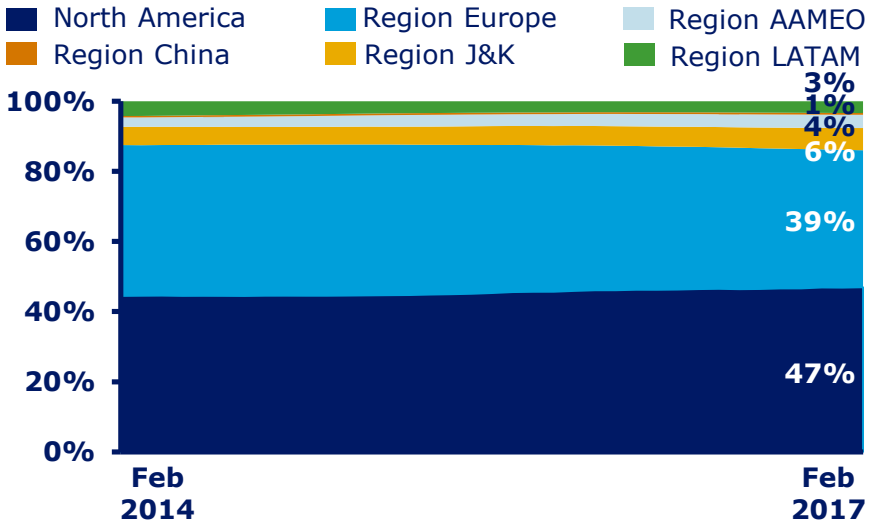
Strong GLP-1 volume growth across the regions with a steep uptake for Region Latin America

Regional GLP-1 volume growth



J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle East and Oceania; LATAM: Latin America
Note: Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS Monthly MAT February, 2017 volume figures

Regional GLP-1 volume market split



J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle East and Oceania; LATAM: Latin America
Note: Data is sensitive to changes in IMS data collection and reporting methodology
Source: IMS Monthly MAT February, 2017 volume figures

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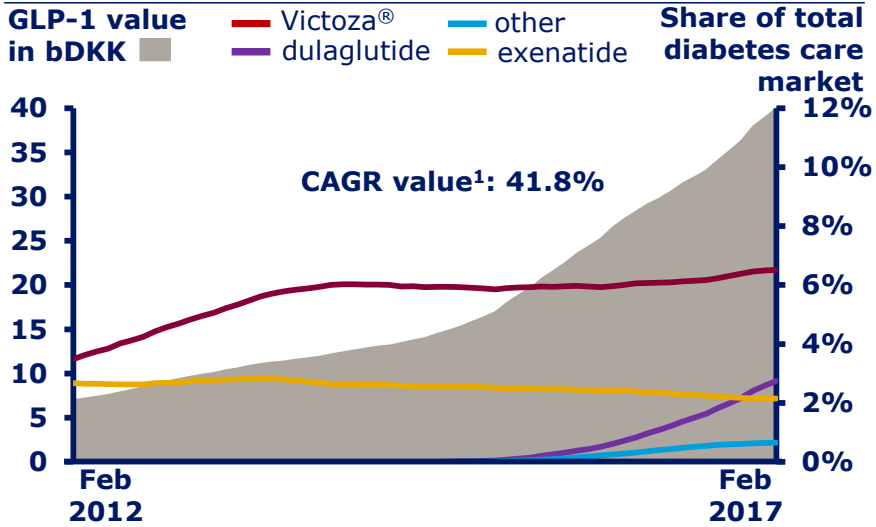
The combined GLP-1 segment accounts for 12% of the total diabetes care market in North America

North America GLP-1 market



[1] CAGR for 5-year period
Source: IMS Monthly MAT February, 2017 value figures (DKK)

Key observations for Victoza® in the US market

- Victoza® value market share within the GLP-1 segment is 54%
- Around 81% of commercial and around 89% of Medicare Part D lives are covered without restrictions
- Around 69% of new patients are new to treatment or from OAD-only regimens
- Close to 70% of prescriptions are for the higher dose 1.8 mg (3-pen pack)[1]

[1] IMS monthly NPA data, February 2017

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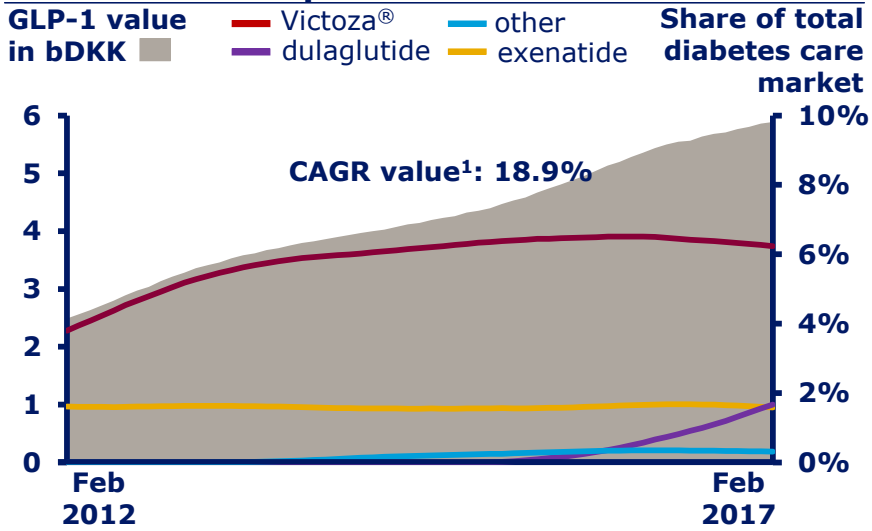
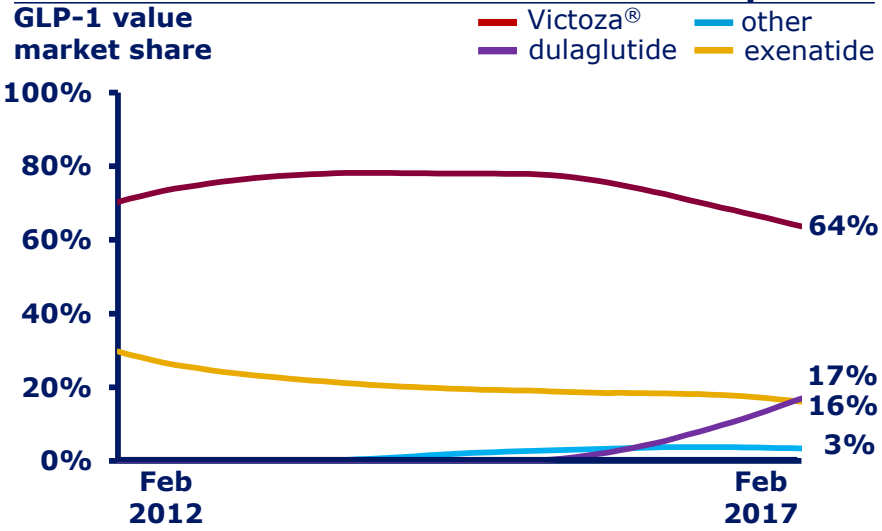
The combined GLP-1 segment accounts for around 10% of the total diabetes care market in Europe

European GLP-1 market



[1] CAGR for 5-year period
Source: IMS Monthly MAT February, 2017 value figures (DKK)

Victoza® value market share in Europe



Source: IMS Monthly MAT February, 2017 value figures (DKK)

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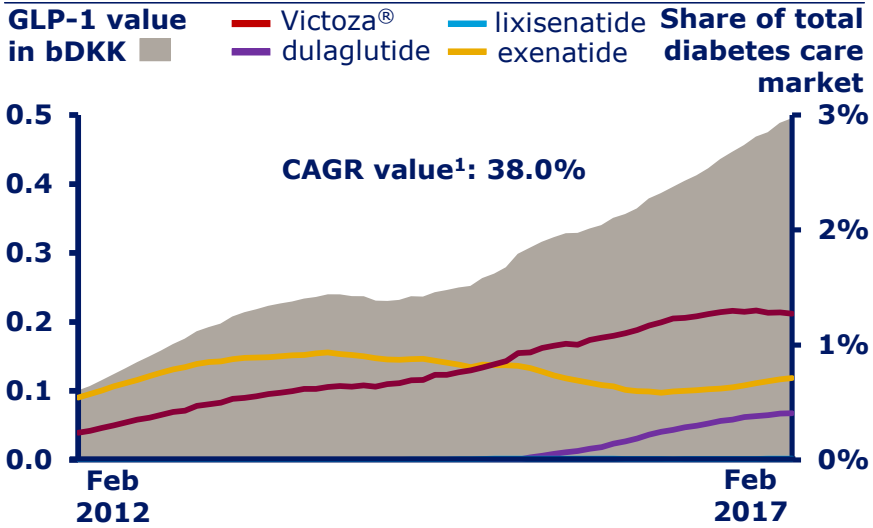
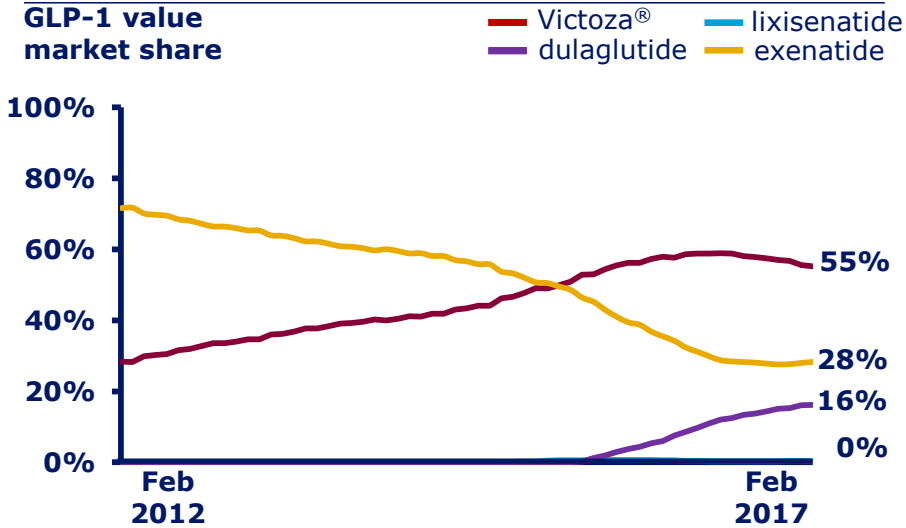
The combined GLP-1 segment accounts for more than 2% of the total diabetes care market in AAMEO

AAMEO GLP-1 market



Victoza® value market share in AAMEO



[1] CAGR for 5-year period
AAMEO: Africa, Asia, the Middle East and Oceania
Source: IMS Monthly MAT February, 2017 value figures (DKK)

Source: IMS Monthly MAT February, 2017 value figures (DKK)

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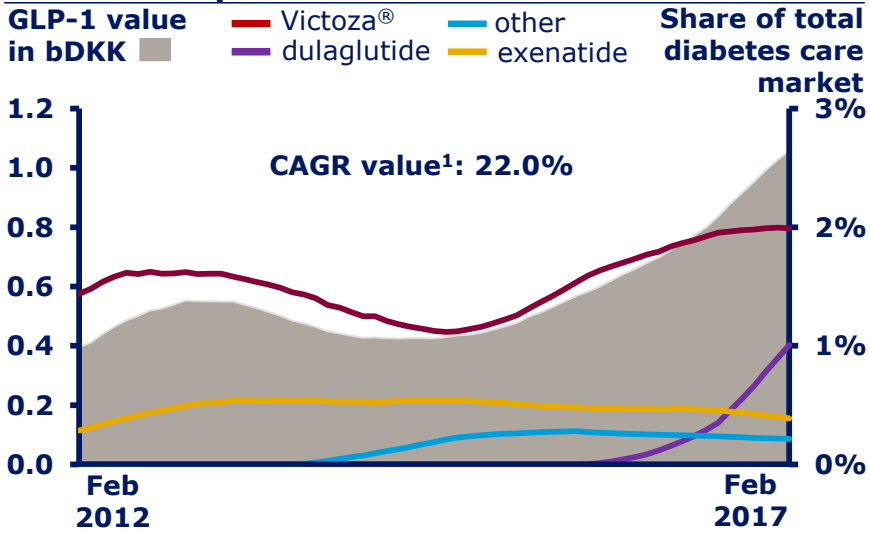
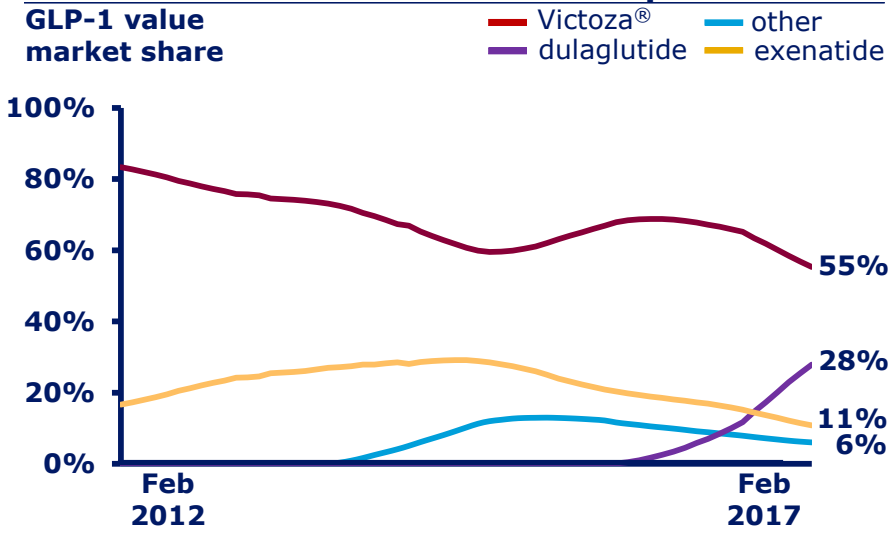
The combined GLP-1 segment accounts for around 4% of the total diabetes care market in Japan & Korea

Japan & Korea GLP-1 market



[1] CAGR for 5-year period
Source: IMS Monthly MAT February, 2017 value figures (DKK)

Victoza® value market share in Japan & Korea



Source: IMS Monthly MAT February, 2017 value figures (DKK)

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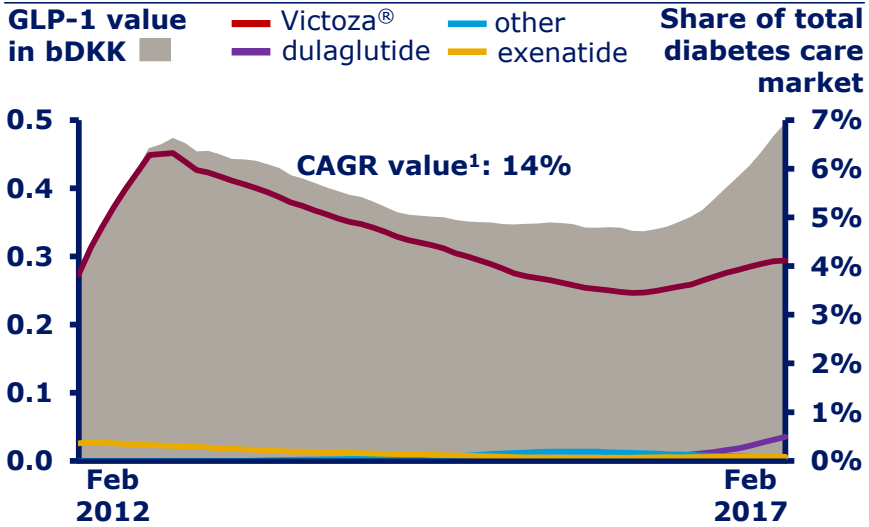
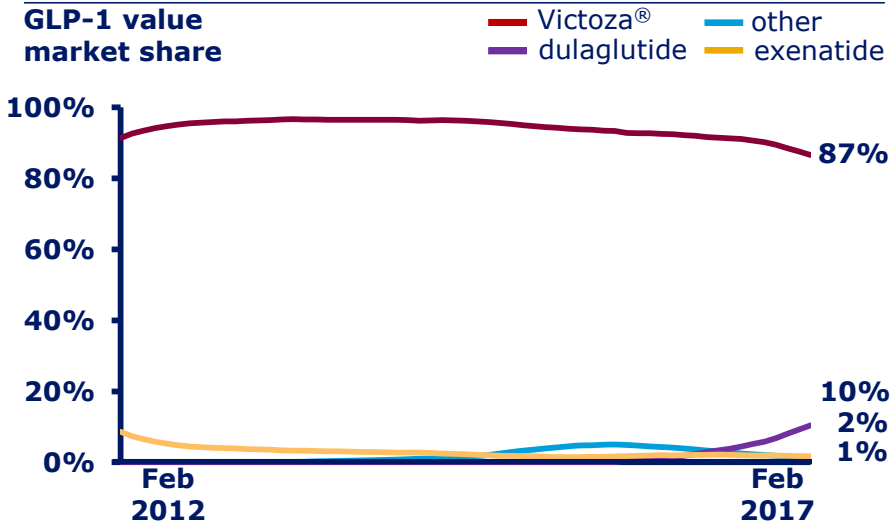
Strong market leadership of Victoza ® in Latin America

Latin America GLP-1 market



Victoza® value market share in Latin America



¹ CAGR for 5-year period
Source: IMS Monthly MAT February, 2017 value figures (DKK)

Source: IMS Monthly MAT February, 2017 value figures (DKK)

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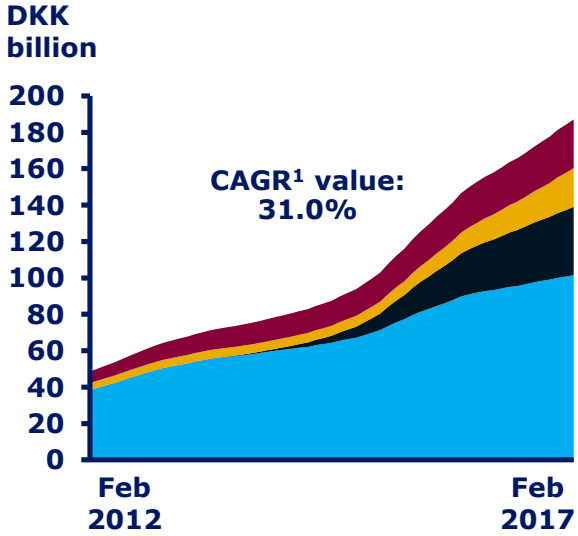
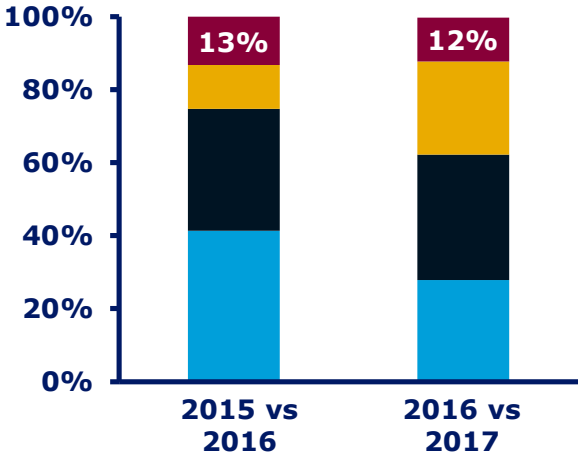
Victoza® maintains a solid position in the global segment

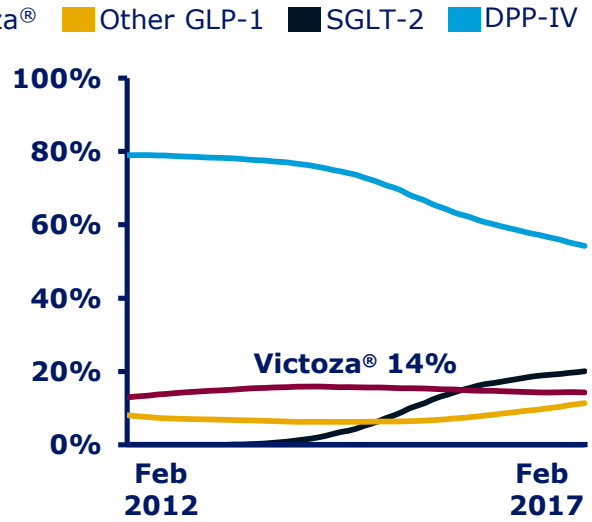
Segment value



Share of segment value growth



Segment value market shares



[1] CAGR for 5-year period
Note: Segment only includes DPP-IV, GLP-1 & SGLT-2. Other oral anti-diabetic agents and insulin excluded
Source: IMS MAT February 2017 value figures

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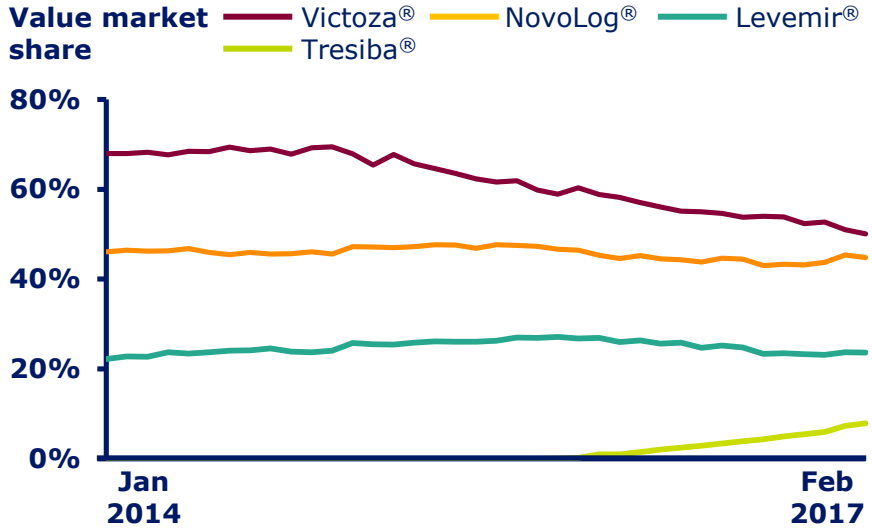
Key Novo Nordisk diabetes care products remain broadly available in the US

Value market shares of key Novo Nordisk products in the US



Source: IMS NSP February 2017;
Note: Market shares: NovoLog®: share of rapid acting insulin segment; Levemir®: share of basal insulin segment; Tresiba® share of basal insulin segment; Victoza®: share of GLP-1 segment

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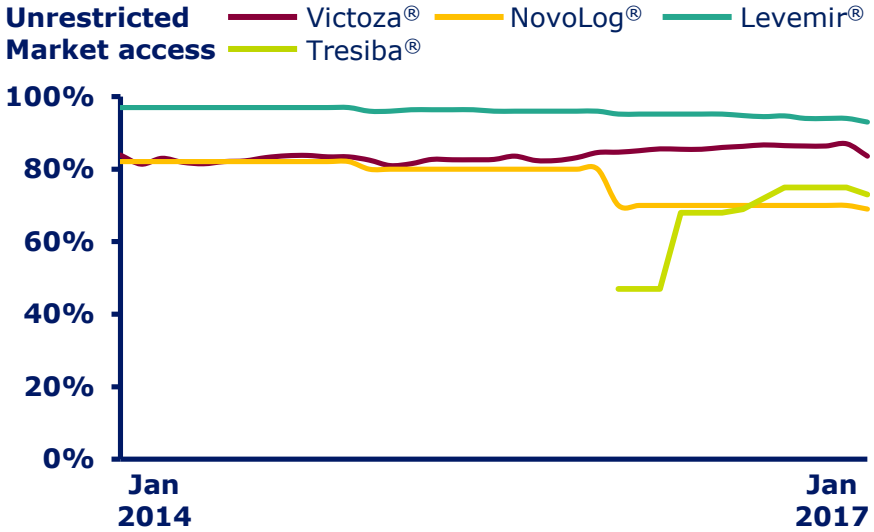
% unrestricted market access of key Novo Nordisk products in the US



Source : FingerTip Formulary bridge/ January 2017 Nomenclature and Xponent PlanTrak using week-ending 2/3/2017; only considers bridged volume; excludes cash and mail order data;
Note: Unrestricted access excludes prior authorisation, step edits and other restrictions Levemir® access based on FlexTouch® Pen; NovoLog® access based on FlexPen®; only considers bridged volume; Tresibe® launched in January 2016

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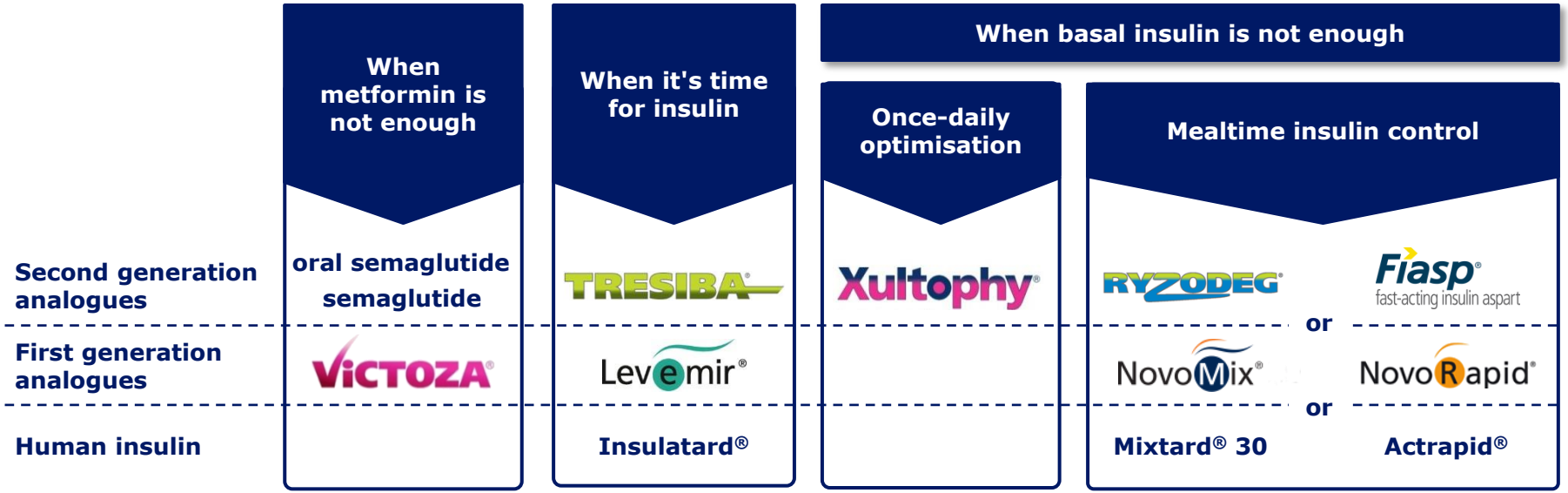
Novo Nordisk current and future product portfolio covers the type 2 diabetes treatment flow[1]

Overview of current and future products in Novo Nordisk's diabetes portfolio



[1] Pending clinical development programmes and regulatory processes for oral semaglutide and semaglutide

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R&D pipeline: Diabetes, obesity and other areas

Product/project	Type	Indication	Status (phase)				
			1	2	3	Filed	Appr.
Fast-acting insulin aspart (NN1218)[1]	New formulation of insulin aspart	Type 1+2					
Semaglutide (NN9535)	Once-weekly GLP-1 analogue	Type 2					
OG217SC (NN9924)	Long-acting once-daily oral GLP-1 analogue	Type 2					
Semaglutide QD (NN9535)	Once-daily GLP-1 analogue	Type 2					
Anti-IL-21 and liraglutide (NN9828)	Immuno-metabolic combination of Anti-IL-21 and liraglutide	Type 1					
LAI287 (NN1436)	Long-acting once-weekly basal insulin analogue	Type 1+2					
Mealtime insulin (NN1406)	Liver-preferential mealtime insulin	Type 1+2					
PYY diabetes (NN9748)	Peptide YY analogue	Type 1+2					
Semaglutide QD (NN9536)	Once-daily GLP-1 analogue	Obesity					
G530S (NN9030)	Glucagon analogue	Obesity					
AM833 (NN9838)	Long-acting amylin analogue	Obesity					
GG-co-agonist (NN9277)	Glucagon GLP-1 co-agonist	Obesity					
PYY obesity (NN9747)	Peptide YY analogue	Obesity					
FGF21 Obesity (NN9499)	Fibroblast growth factor 21 analogue	Obesity					
Tri-agonist 1706 (NN9423)	Phase 1 trial initiated	Obesity					
Semaglutide NASH (NN9931)	Long-acting once-daily GLP-1 analogue	NASH					

[1] Approved in EU on 10 Jan 2017

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Tresiba® demonstrated CV safety and reduced severe hypoglycaemia risk vs insulin glargine U100 in DEVOTE trial

DEVOTE trial design

Trial objective

- To investigate the cardiovascular safety of Tresiba®

CV: Cardiovascular
Note: Key inclusion criteria: Adults above 50 years with type 2 diabetes and established cardiovascular disease, or above 60 years with multiple cardiovascular risk factors; HbA_{1c} ≥7.0% or HbA_{1c} <7.0% and current basal insulin therapy ≥20 units per day; treatment with ≥1 oral or injectable anti-diabetic drug(s)
* The trial was concluded after at least 633 events

Key results and next step

- Non-inferiority on CV safety demonstrated with a hazard ratio of 0.91 in favour of Tresiba® relative to insulin glargine U100 with no statistically significant difference between the two treatments
- Compared to insulin glargine U100, Tresiba® demonstrated a superior and statistically significant:
  - 27% reduction in the proportion of subjects with one or more severe hypoglycaemia episodes
  - 40% reduction in the overall rate of severe hypoglycaemia episodes
  - 53% reduction in the rate of nocturnal severe hypoglycaemia episodes

Next steps

- Presentation of detailed results at American Diabetes Association in June 2017 and submitted to regulatory authorities in Q2 2017

CV: Cardiovascular

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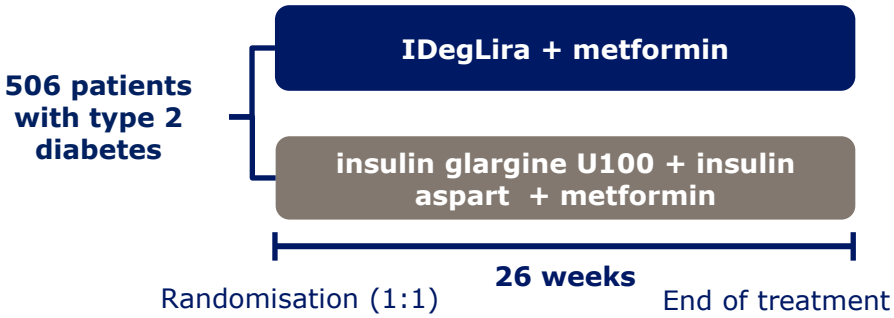
Xultophy® showed significant reduction of hypoglycaemic events and weight loss vs basal-bolus in phase 3b study

DUAL VII phase 3b trial design



Trial objective

- To confirm the efficacy of Xultophy® versus basal-bolus therapy in terms of glycaemic control

BMI: Body Mass Index
Key inclusion criteria: Adults with type 2 diabetes and BMI ≤40kg/m2; HbA_{1c} 7.0-10.0% and current basal insulin therapy 20-50 units insulin glargine U100 + metformin per day

Key results and next steps

- Xultophy® successfully demonstrated similar glucose control compared to insulin glargine U100 in combination with insulin aspart
- Xultophy® showed superior reduction of 89% in the rate of severe or blood glucose confirmed symptomatic hypoglycaemic episodes compared to insulin glargine U100 in combination with insulin aspart
- Xultophy® patients experienced a weight loss of 0.9 kg compared with a weight gain of 2.6 kg with the basal-bolus regimen
- At the end of the trial Xultophy® patients required 40 units compared to a total of 85 units with insulin glargine U100 in combination with insulin aspart
- **Next steps:** Presentation of DUAL VII data at American Diabetes Association in June 2017

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Fast-acting insulin aspart approved in the EU and Canada, regulatory decision by FDA expected Q4 2017

Regulatory decisions and next steps

- Fiasp® (fast-acting insulin aspart) launched in Germany, UK and Canada
- Next step: Launch roll-out in more European countries

- Class II resubmission of the NDA for fast-acting insulin aspart in the US on 29 March 2017
- Next step: Regulatory decision by the FDA expected Q4 2017

Fiasp® vs NovoRapid® EU label characteristics

Efficacy	• Fiasp® HbA_{1c} reduction of -0.32% compared NovoRapid® of -0.15% in type 1 diabetes patients • Fiasp® 1-h PPG reduction of -0.29 mmol/l
Pharma-cokinetics	• Fiasp® twice as fast as NovoRapid® • Twice as much insulin available during first 30 minutes with Fiasp®
Safety	• Overall safety of Fiasp® consistent with NovoRapid® • Hypoglycaemia may occur earlier compared to other mealtime insulins
Specific populations	• Fiasp® approved for pregnancy and pumps as NovoRapid® • Paediatric use not yet approved for Fiasp® and more limited geriatric use vs NovoRapid®

NDA: New drug application

PPG: Postprandial glucose; SC: Subcutaneous

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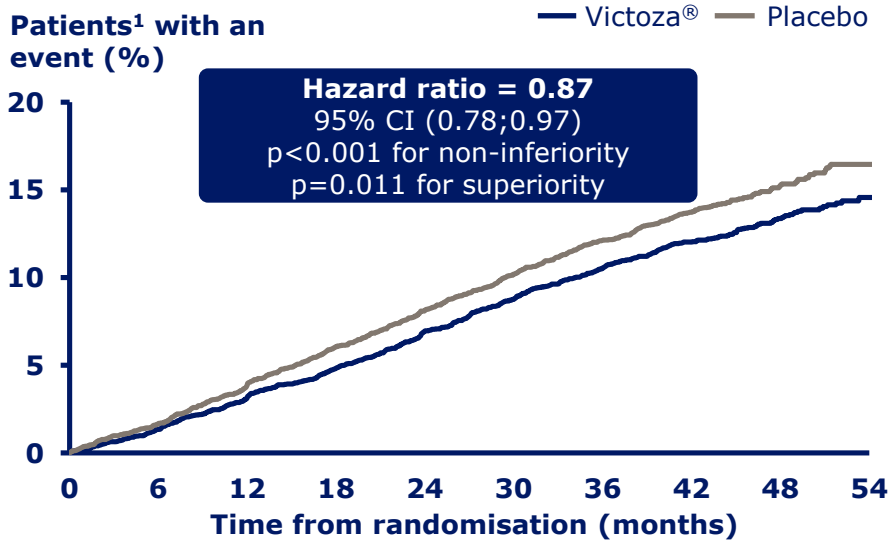
Victoza® statistically significantly reduced the risk of major adverse cardiovascular events in the LEADER trial

13% reduction in 3-point MACE with Victoza® compared with placebo



[1]Inclusion criteria: Adults above 50 years with type 2 diabetes and established CV disease, above 60 years with multiple CV factors, $HbA_{1c} \geq 7.0\%$
MACE: major adverse cardiovascular events; 3-point MACE comprises cardiovascular death, non-fatal myocardial infarction and non-fatal stroke; CI: two-sided confidence interval

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Key results

- Superiority of Victoza® vs placebo was confirmed for time to first MACE in people with type 2 diabetes at high CV risk
- **Victoza® reduced the MACE risk by 13%,** driven by 22% reduction in CV mortality, 12% reduction in non-fatal myocardial infarctions and 11% reduction in non-fatal stroke, compared with placebo when added to standard of care
- Victoza® reduced all-cause mortality by 15% respectively, compared with placebo when added to standard of care
- The result was consistent across sensitivity analyses
- Victoza® appeared to have a safe and well tolerated profile, generally consistent with previous studies for Victoza®

CV: Cardiovascular

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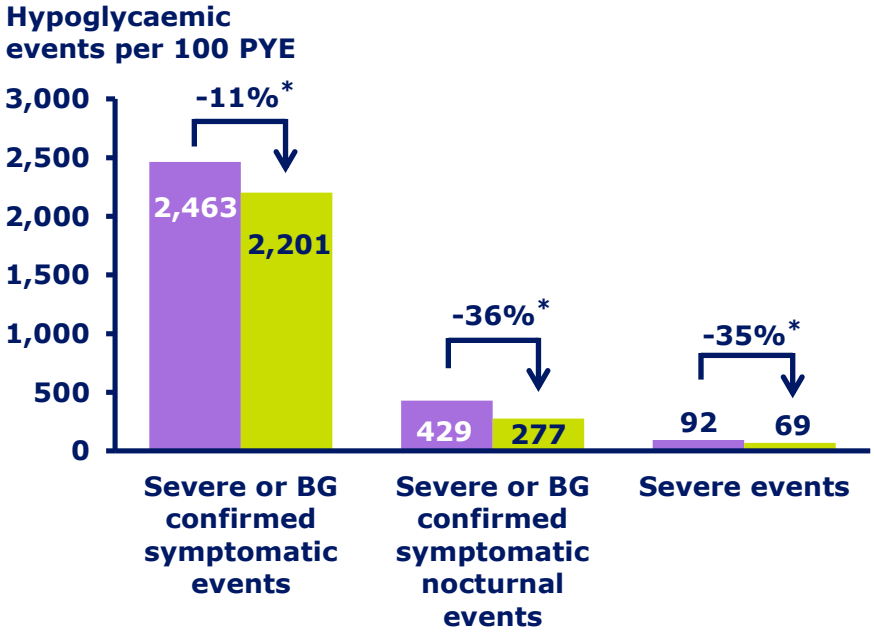
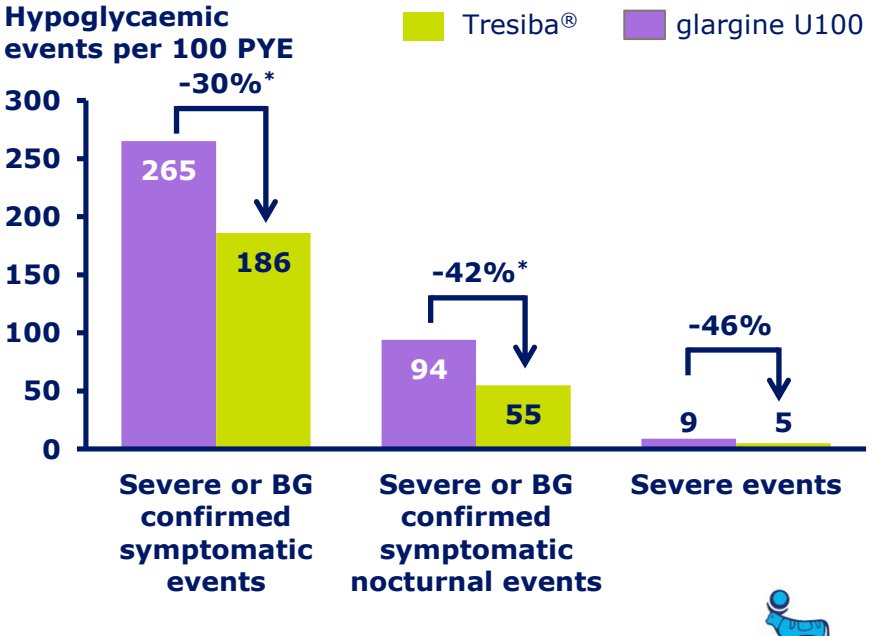
Tresiba® shows lower rate of hypoglycaemia than insulin glargine U100 in SWITCH trials – filed in H2 2016

SWITCH 1 – type 1 diabetes



SWITCH 2 – type 2 diabetes



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Note: The prevalence of hypoglycaemia is measured during the maintenance period; Blood glucose confirmed hypoglycaemia is defined as <56 mg/dL (<3.1 mmol/L); The confirmatory secondary endpoint of proportions of subjects experiencing severe hypoglycaemia during the maintenance period did not reach statistical significance in the SWITCH 2 trial. * Statistically significant; BG: Blood glucose; PYE: Patient years exposed

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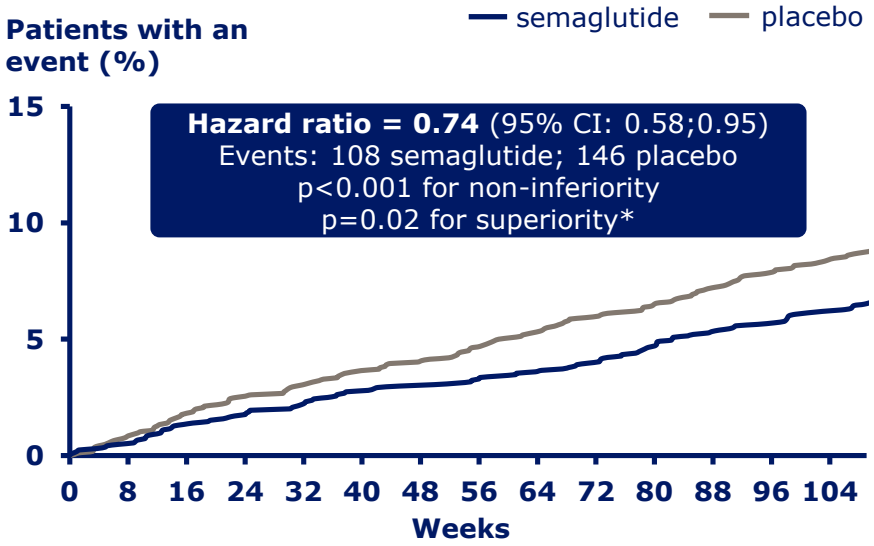
Semaglutide significantly reduced the risk of major cardiovascular events with 26% vs placebo in SUSTAIN 6

Semaglutide demonstrated 26% reduction in composite CV outcome compared with placebo



Note: p-value is two-sided, pooled data reported for both semaglutide and placebo
MACE: Major adverse cardiovascular event; 3-point MACE comprises cardiovascular death, non-fatal myocardial infarction and non-fatal stroke; CI: Confidence interval
* No adjustment for multiple tests

Key results and next step

- Non-inferiority of semaglutide compared to placebo was confirmed for time to first MACE in people with type 2 diabetes
- Semaglutide reduced the risk of MACE by 26% driven by reductions of non-fatal stroke by 39%* and non-fatal MI by 26%
- Semaglutide significantly reduced the risk of nephropathy while increasing the risk of retinopathy complications
- **Next step**: Novo Nordisk has submitted an NDA for semaglutide to regulatory authorities and expect regulatory feedback in Q4 2017

* P-value <0.001
NDA: New drug application

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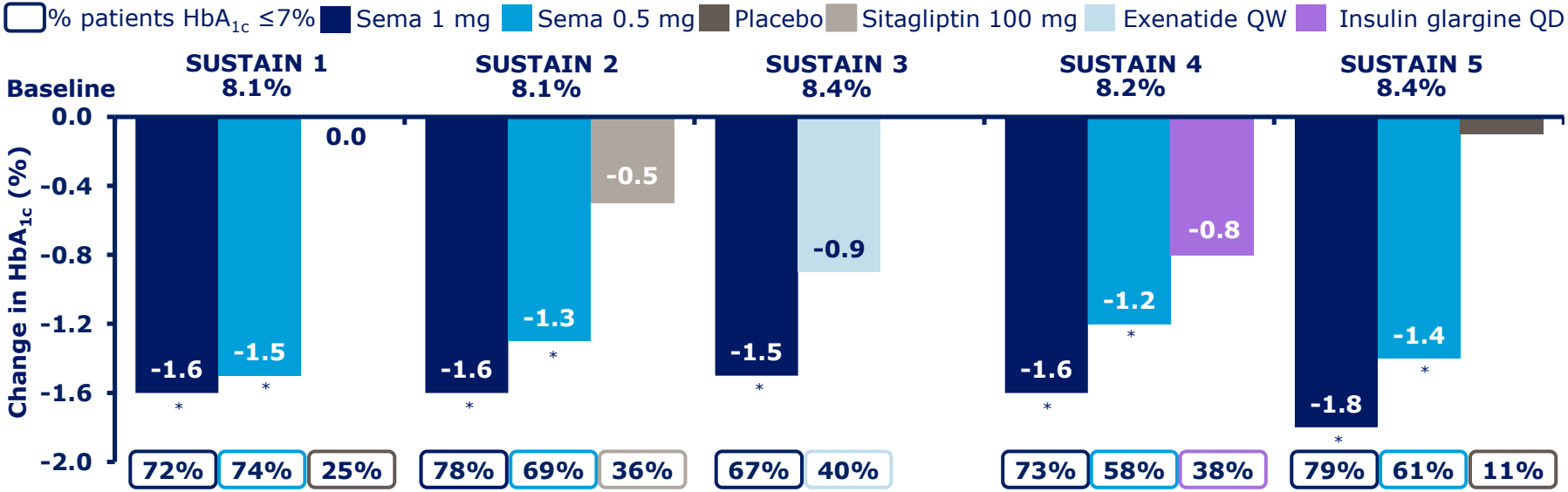
In phase 3a trials semaglutide shows best in-class potential on HbA_{1c} reduction across treatment cascade

Comparison of HbA_{1c} lowering effect in SUSTAIN 1, 2, 3, 4 and 5 trials



* $p < 0.001$; QD: once daily; QW: once weekly; sema: semaglutide
Source: Novo Nordisk on file (NN9535-3623, NN9535-3624, NN9535-3625, NN9535-3626, NN9535-3627)

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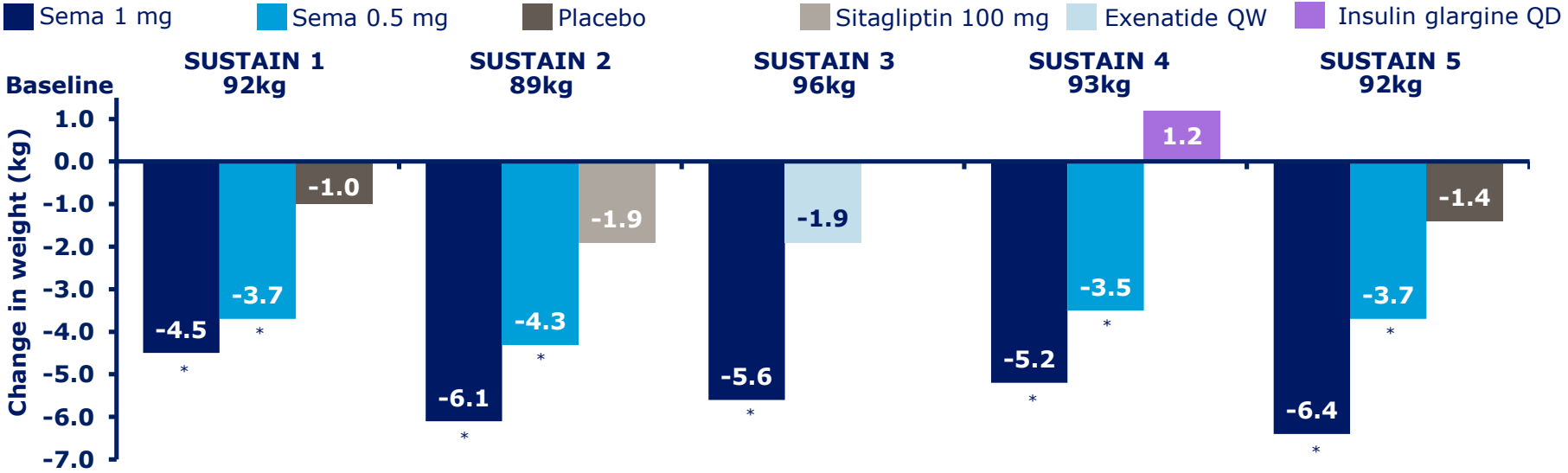
In phase 3a trials semaglutide shows best in-class weight lowering potential across treatment cascade

Comparison of weight lowering effect in SUSTAIN 1, 2, 3, 4 and 5 trials



* $p < 0.001$; QD: once daily; QW: once weekly; sema: semaglutide
Source: Novo Nordisk on file (NN9535-3623, NN9535-3624, NN9535-3625, NN9535-3626, NN9535-3627)

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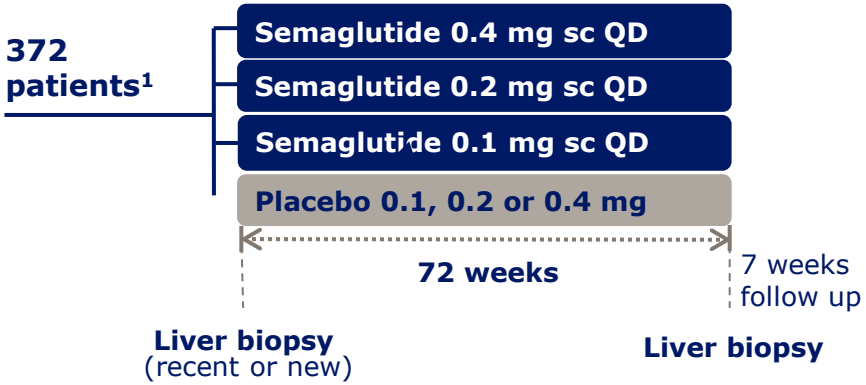
Phase 2 trial with semaglutide for NASH initiated in November 2016

Once-daily semaglutide vs. placebo in patients with NASH trial design



[1] Inclusion criteria: Histological confirmation of NASH, BMI 25.0–45.0 kg/m2, NASH fibrosis stage 2 or 3, Histological NAFLD Activity Score ≥ 4
sc: subcutaneous; QD: Once-daily ; NAFLD: non-alcoholic fatty liver disease; NASH: non-alcoholic steatohepatitis; NAFLD: Non-alcoholic fatty liver disease.

Phase 2 trial purpose and endpoints

- **Purpose:** To compare the effects of semaglutide subcutanous once daily versus placebo in achieving histologic resolution of NASH after 72 weeks
- **Trial design:** Randomised and double-blind
- **Primary endpoint:** NASH resolution without worsening in fibrosis after 72 weeks
- **Secondary endpoint:** At least one stage of improvement at week 72, change from baseline in NAFLD activity score, stage of fibrosis and biomarkers
- **Results:** Phase 2 trial results communicated in 2019

Competitive Tresiba® label across all three triad markets

Tresiba® label characteristics in triad markets

	US	Europe	Japan
Profile	• Half-life of 25 hours and duration of action of at least 42 hours • Day to day variability of 20%	• Duration of action beyond 42 hours • Four times lower day-to-day variability vs insulin glargine	• Duration of action up to 26 hours in Japanese patients • Four times lower day-to-day variability vs insulin glargine
Efficacy	• Non-inferior HbA_{1c} reduction • Numerically greater FPG reduction • Numerically lower insulin dose[1]	• Non-inferior HbA_{1c} reduction • Numerically greater FPG reduction	• Non-inferior HbA_{1c} reduction • Numerically greater FPG reduction
Safety	• Overall safety consistent with insulin • Hypoglycaemia rates for Tresiba®, but not comparator	• Overall safety consistent with insulin • Lower rate of overall and nocturnal hypoglycaemia	• Overall safety consistent with insulin • Lower rate of nocturnal hypoglycaemia in Asian subjects
Convenience	• Injection any time of day • Up to 80 and 160 units per injection	• Adjusting injection time when needed • Up to 80 and 160 units per injection	• In case of missed dose take as soon as possible

[1] Observed in majority of the trials

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Competitive labels for Xultophy® in both the US and EU

	US – Xultophy® 100/3.6	Europe - Xultophy®
Indication	• Adjunct to diet and exercise to improve glycaemic control in adults with type 2 diabetes mellitus inadequately controlled on basal insulin (less than 50 units daily) or liraglutide (less than or equal to 1.8 mg daily)	• Xultophy® is indicated for the treatment of adults with type 2 diabetes in combination with oral glucose-lowering agents
Profile	• **A combination** of insulin degludec and liraglutide • Administered as units: Each Xultophy® 100/3.6 dosage unit contains 1 unit of insulin degludec and 0.036 mg of liraglutide	• **Fixed combination** product consisting of **insulin degludec** and **liraglutide.** • Administered as dose steps: 1 dose step contains 1 unit of insulin degludec and 0.036 mg of liraglutide
Efficacy	• **HbA1c reduction of 1.7%** from baseline to end of trial with an estimated treatment difference of -0.5 vs Insulin glargine U100 • **Weight gain** when converting from liraglutide of 2 kg	• **On average HbA_{1c} reduction of 1.9%** from baseline to end of trial confirmed to be **superior against all comparators**[1] • On average **2.7 kg weight loss** from baseline in patients inadequately controlled on basal insulin
Convenience	• **Once-daily administration at same time each day** with or without food • The pen delivers doses from 10 to 50 units with each injection	• **Once-daily administration at any time of the day**, preferably at the same time of the day • The pre-filled pen can provide from 1 up to 50 dose steps in one injection
Safety	• Hypoglycaemia is the most common adverse reaction • **Gastrointestinal adverse reactions may occur more frequently** at the beginning of therapy and diminish within a few days or weeks on continued treatment	• **Lower rates of confirmed hypoglycaemia** than with insulin degludec in patients on metformin +/- pioglitazone • **Fewer experienced gastrointestinal side effects** than patients treated with liraglutide

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Source: DUAL I (NN9068-3697), DUAL II (NN9068-3912), DUAL III (NN9068-3851), DUAL IV (NN9068-3952), DUAL V (NN9068-4119)

[1] $p<0.01$

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Xultophy® has documented strong efficacy across the treatment cascade

Xultophy® key clinical results

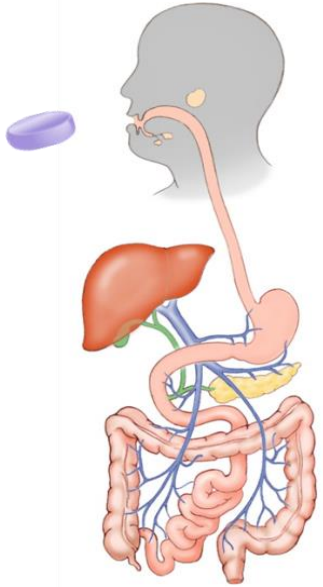
	DUAL I Add-on to metformin ± Pio n = 833	DUAL II Add-on to metformin ± basal insulin n = 199	DUAL III Switch from GLP-1 n = 292	DUAL IV Add-on to SU ± metformin n = 289	DUAL V Switch from insulin glargine n = 557
Mean trial start HbA_{1c} (%)	8.3	8.7	7.8	7.9	8.4
Mean trial end HbA_{1c} (%)	6.4	6.9	6.4	6.4	6.6
HbA_{1c} change (%)	-1.9	-1.9	-1.3	-1.45	-1.8
% to target < 7% (%)	80.6	60.3	75.3	79.2	71.6
% to target < 6.5% (%)	69.7	45.2	63.0	64.0	55.4
Confirmed hypoglycaemia (Episodes per 100 PYE)	180.2	153.4	282	351.7	343.3
Weight change (kg)	-0.5	-2.7	+2.0	+0.5	-1.4

Note: Typical confirmed hypoglycaemia event rates for treatment with basal insulin are 142-369 episodes per 100 PYE (based on insulin glargine event rates from trials NN1250-3586, 3579 and 3672) where the FPG target and hypoglycaemia definition is similar to the DUAL trials

Oral peptide delivery – the gastro-intestinal route poses many challenges to absorption of intact macromolecules

Challenges

1. Breakdown of drug in the stomach/gastrointestinal tract
2. Passage across the gut barrier into the circulation
3. Ensuring a long circulation half-life

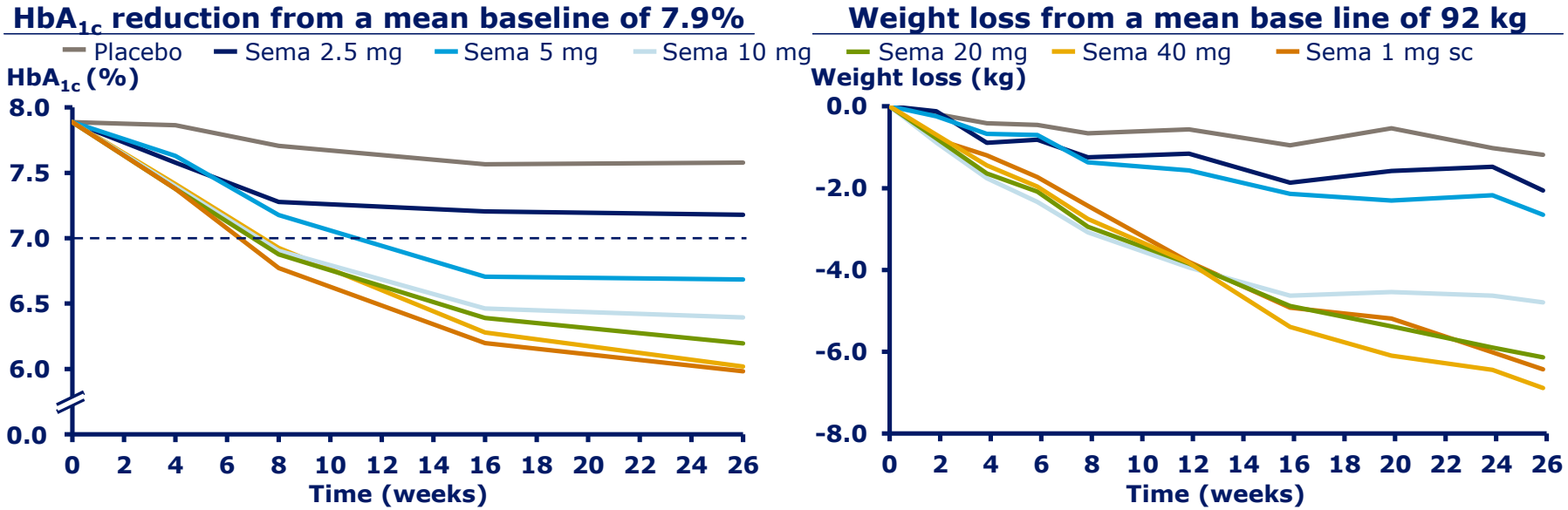


Solutions

1. Stabilisation of peptide backbone and side chain
2. Tablet formulation including carrier and/or coating
3. Engineered systemic protraction mechanism

Note: Mechanism of action used for oral semaglutide

Oral semaglutide dose dependently reduced HbA_{1c} and body weight in a 26-week phase 2 trial in type 2 diabetes



Inclusion criteria: Type 2 diabetes; 7.0% ≤ HbA_{1c} ≤ 9.5%; treatment with diet and exercise with or without metformin; sc: subcutaneous; sema: semaglutide

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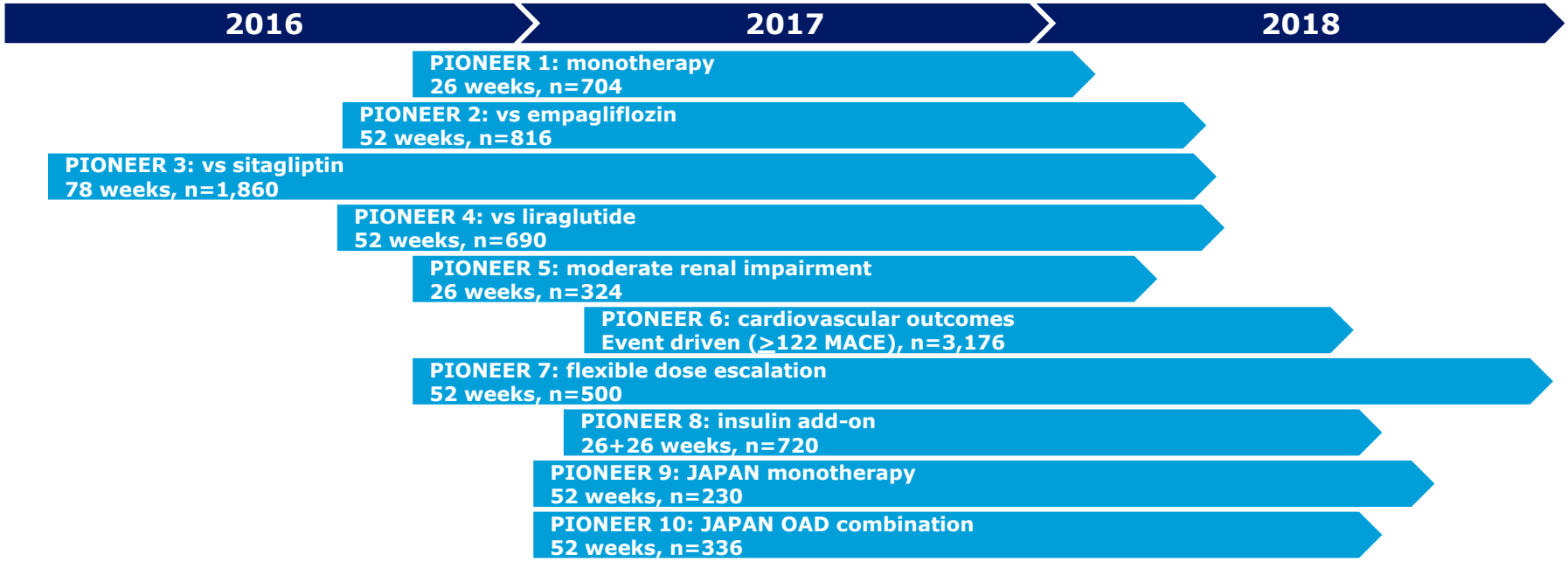
Initiation of PIONEER trials for oral semaglutide



Note: Preliminary estimated timing of trials from first patient first visit (FPFV) to last patient last visit (LPLV), n = approximate number of randomised people; MACE: Major Cardiovascular Events; OAD: oral anti-diabetic

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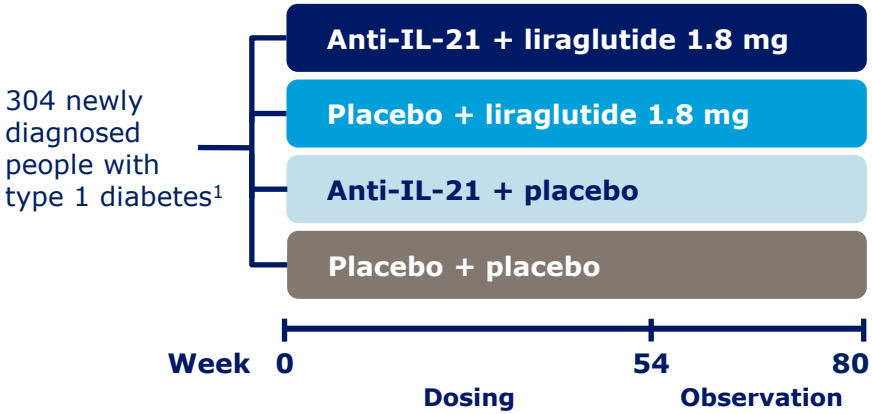
Anti-IL 21 in combination with liraglutide is an alternative approach for the treatment of type 1 diabetes

Phase 2 trial design



Rationale for Anti-IL 21 and liraglutide combination product for T1D

Anti-IL 21 plays an important role in autoimmunity with potential effect on immune disorder

- ↓ Effector cells (T and B lymphocytes and natural killer cells)
- ↓ Pro-inflammatory cytokines
- ↓ Autoantibodies
- ↓ Chemokines
- ↓ Matrix metalloproteinase (MMPs)

GLP-1 receptor agonist may promote beta-cell recovery

- ↓ Decrease beta-cell stress/apoptosis
- ↑ Stimulate beta-cell neogenesis
- ↑ Expansion of beta-cell mass in rodent models

Orphan drug designation granted for the treatment of type 1 diabetes with residual beta cell function in January 2017

[1] Inclusion criteria: Subjects diagnosed as type 1 diabetes for not more than 12 weeks prior to randomisation; age 18-45 (both inclusive)
Note: If liraglutide 1.8 mg is not tolerated 1.2 mg is administered. ANTI-IL: interleukin

T1D: Type 1 diabetes; MOA: Mode of action

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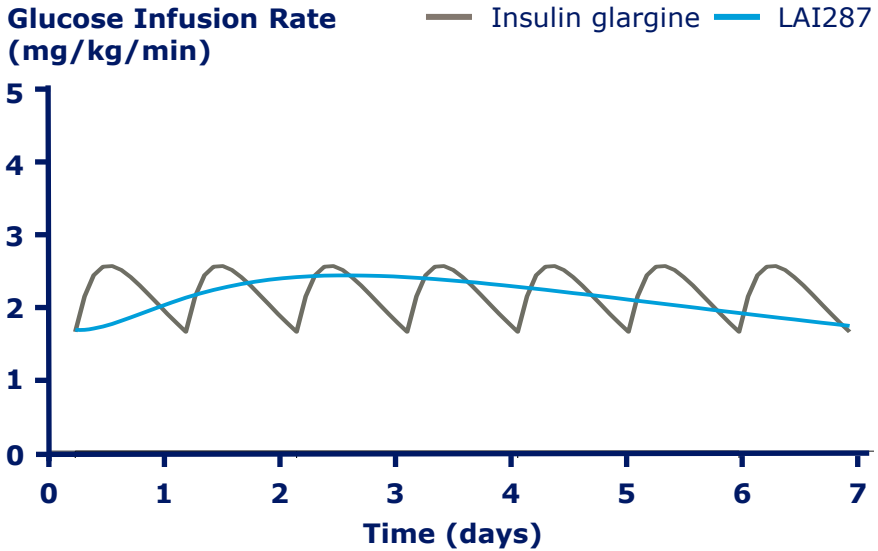
Insulin LAI287 offers potential for once-weekly dosing

LAI287 pharmacodynamic profile is compatible with once-weekly dosing



Note: Pharmacokinetic simulation

Key results of phase 1 trial

- The trial evaluated short term efficacy and safety during five weeks of treatment
- LAI287 showed dose-dependent exposure and a variability comparable to that of insulin degludec
- Terminal half-life of 185 hours supporting a once-weekly dosing regimen
- LAI287 generally appeared safe and well tolerated, with most frequent adverse events being hypoglycaemia
- The side effects observed in the phase 1 trial will be further investigated

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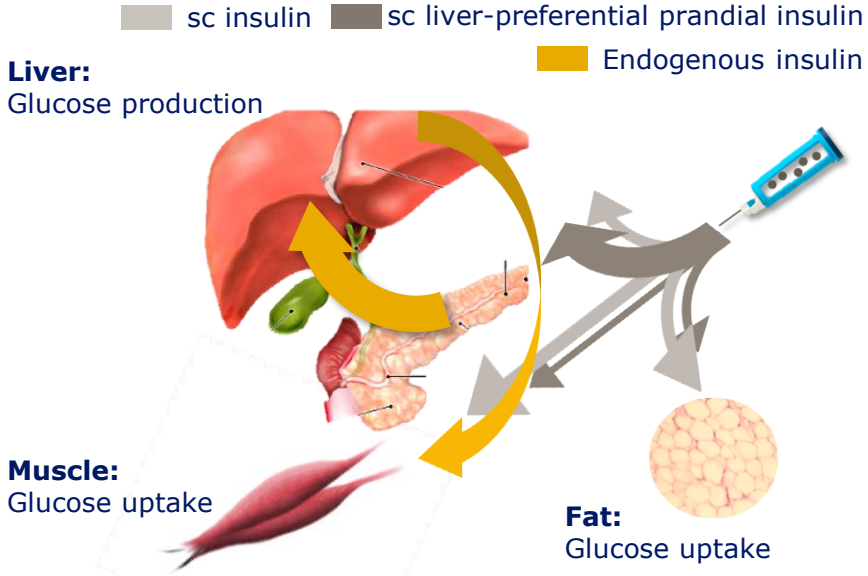
Liver-preferential meal time insulin analogue has potential to reduce hypoglycaemia and weight gain

The liver is important for insulin action



Note: Mode of action for fast-acting insulin aspart
sc: subcutaneous

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Rationale and expected benefits of physiologically distributed insulin

Rationale

- Elevated hepatic glucose release drives overall higher PPG in people with type 2 diabetes compared to healthy individuals[1]
- >50% of endogenous insulin secretion is cleared by the liver
- Insulinisation of peripheral tissues with current insulin analogues is higher than for endogenous insulin

Potential benefits

- Mimics physiology of insulin distribution secreted from pancreas
- Less hypoglycaemia
- Less weight gain

Next steps

- Phase 1 trial with liver-preferential mealtime insulin (NN1406) initiated

PPG: post prandial glucose
[1] Woerle HJ et al. *Am J Physiol Endocrinol Metab* 2006;290:E67–E77

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More than 20 million people in the US have a BMI above 35 with either pre-diabetes or CV related comorbidities

Incidence of obesity in the US (million people)

Comorbidity status	BMI 27-29.9	Obesity			Total
		Class I BMI 30-34.9	Class II BMI 35-39.9	Class III BMI 40+	
No CV comorbidities[1]	15.5	11.0	4.2	3.0	**33.7**
CV comorbidities[2]	15.1	16.0	6.4	4.1	**41.6**
Pre-diabetes[3]	12.0	14.1	7.2	6.1	**39.4**
Type 2 diabetes[4]	2.0	5.0	3.6	2.3	**12.9**
Total	**44.6**	**46.1**	**21.4**	**15.5**	**127.6**

[1] Normal blood glucose without hypertension and/or dyslipidemia
[2] Normal blood glucose with hypertension and/or dyslipidaemia
[3] Impaired Fasting Glucose with or without hypertension and/or dyslipidaemia
[4] Type 2 diabetes with or without hypertension and/or dyslipidaemia
Source: 2009-2010 NHANES + revised 2011 CDC estimates and based on US population 2015. Only includes population age 20+. Distribution between obese groups on market map based on NHANES data (including only measured and not self reported BMI and also measured not self-reported diabetes status)

The US obesity burden

- Cost of obesity to health care systems of USD 147 billion annually with continued growth[5]
- Around 35% of the US adult population (over 20 years) have obesity (BMI>30)[6]
- Only around 30% of all obesity cases in the US were diagnosed in 2009[7]
- In 2010, only 3 million people in the US or around 3% of the adult population with obesity were treated with anti-obesity medication[8]

[5] Finkelstein et al. Health Affairs 28, no. 5 (2009): w822-831
[6] Flegal, KM. JAMA. 2012;307(5): Doi:10.1001/jama.2012.39
[7] Ma et al. Obesity (Silver Spring) 2009;17:1077–85
[8] Obesity. Decision resources, Inc. December 2010:38

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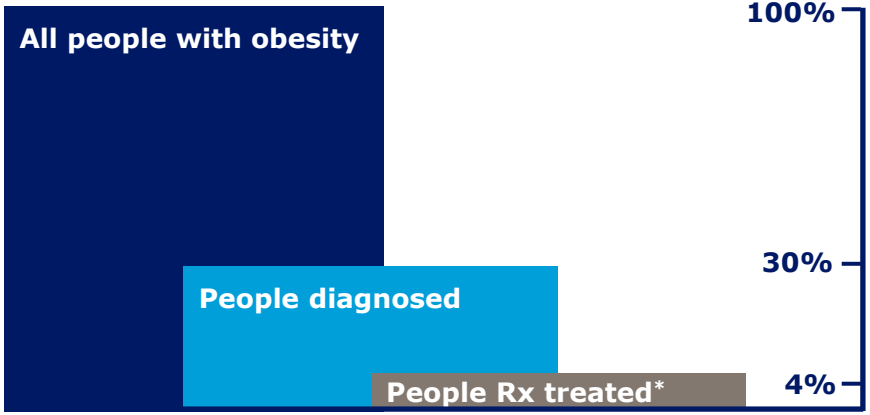
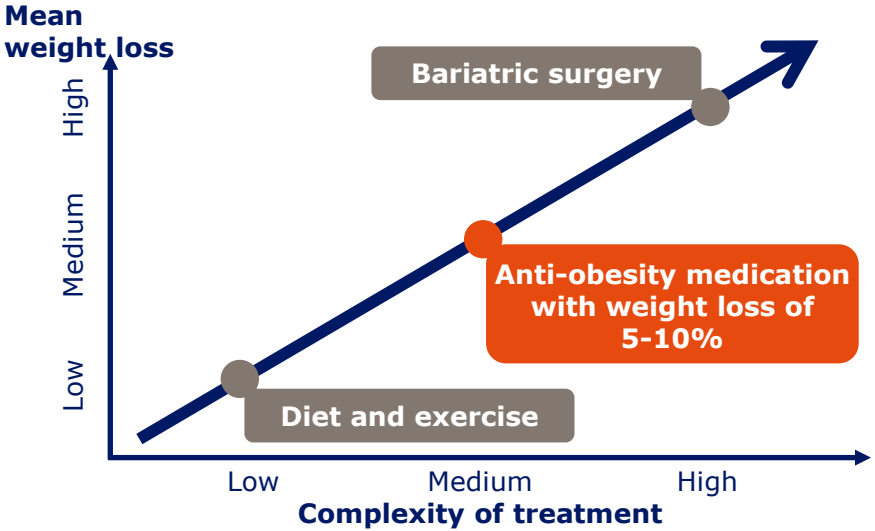
Significant unmet need in obesity management

Insufficient treatment options



Significant gaps in obesity treatment



Source: Diagnosis rate, Practice Fusion March 2014 & Treatment rate, *Understanding the Treatment Dynamics of the Obesity Market*, IMS Database (NPA), August 2014
*Rx=prescription, ie treated with anti-obesity medication (AOM)

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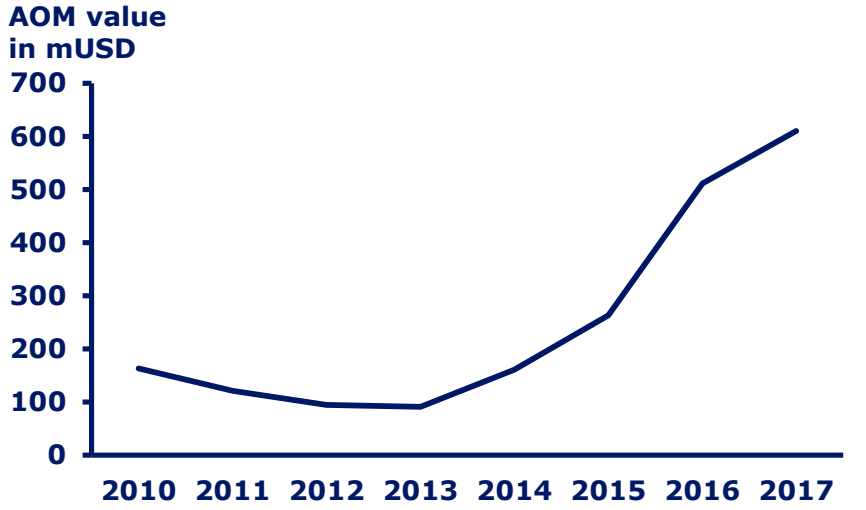
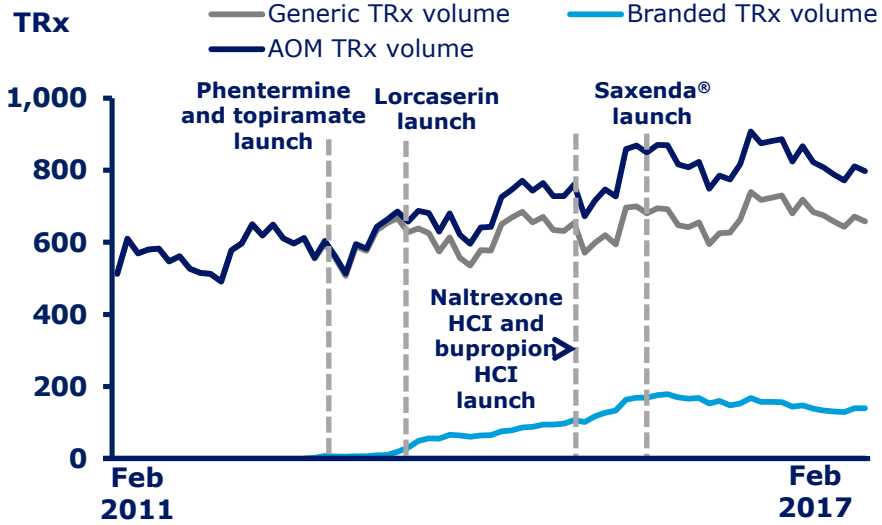
Small but growing market for anti-obesity medication in the US

Total anti-obesity market moving-annual market value



Note: Values are shown in terms of Moving-Annual-Total ending November
Source: IMS NSP Monthly, February 2017

Prescription volume uptake of anti-obesity medication sub-classes



Note: Phentermine and topiramate is a fixed combination; naltrexone HCI and bupropion HCI is the second fixed dosed combination to market. AOM: anti-obesity medication
Source: IMS NPA Monthly, February 2017

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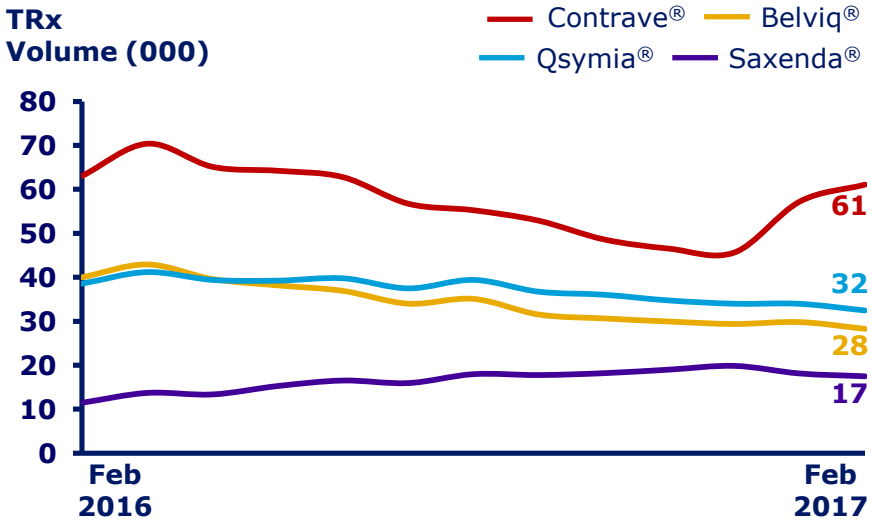
Steady prescription uptake for Saxenda® in the US

Prescription volume uptake of anti-obesity medications (AOM) recently launched in the US



Source: IMS NPA TRx, monthly, February 2017

Key observations

- Saxenda® has been launched in 18 markets including the US, Canada, Australia, Russia, UAE, Israel, Germany, Denmark, Sweden, Switzerland, Italy, Spain, Belgium, Luxembourg, UK, Brazil, Chile and Mexico
- Saxenda is the leader in value market share at ~49% among the branded AOMs in the US
- While competitors promotional efforts have been erratic, Novo Nordisk remains confident in the long-term obesity market growth and the evolving Novo Nordisk obesity portfolio

Saxenda® targeted at patients with BMI ≥35 and weight-related comorbidities

Saxenda® market approach	Saxenda® launch execution
Clear patient **segmentation**	Focus on patients with **BMI ≥35** with weight-related **comorbidities**
Focused prescriber **targeting**	Focus on current prescribers of **anti-obesity medication** and **GLP-1**
Clear product **value proposition**	Strengthened by **3-year clinical data**
Focus on engaging **prioritised** payers and employers	Formulary coverage emerging with more than **50 million lives**[1] covered

Aspiration

Build the market

BMI: body mass index

[1] Potential lives covered, based on employer opt-ins

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Competitive US label for Saxenda®

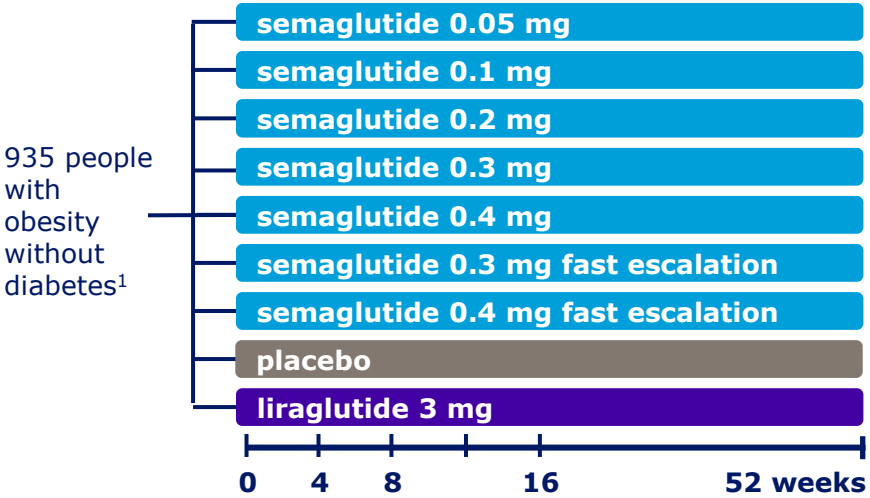
Saxenda® approved in the US for chronic weight management in individuals with a BMI ≥30, or ≥27 in the presence of at least one weight-related comorbidity[1]

Profile	• **GLP-1 receptor agonist** – a **physiological regulator** of **appetite** and **calorie intake** • Saxenda® is the first and only GLP-1 receptor agonist **approved for weight management**
Effect on body weight	• 9 in 10 lose weight and **1 in 3** people **lose more than 10%** of their body weight[2] • **Average weight loss of 9.2%** in completers at one year[2]
Effect on comorbidities	• **Improvements** in **cardiometabolic risk factors** such as hypertension and dyslipidaemia
Safety	• **Boxed warning** on thyroid C-cell tumours • **Precautions** on acute pancreatitis, acute gallbladder disease, serious hypoglycaemia[3], heart rate increase, renal impairment, hypersensitivity and suicidal ideation

[1] Examples include hypertension, type 2 diabetes and dyslipidemia [2] Saxenda® US Package Information. [3] When used with an insulin secretagogue

Semaglutide once daily phase 2 dose-finding trial in obesity is designed to optimise treatment outcomes

Once-daily semaglutide phase 2 trial design



[1] Key inclusion criteria: Male or female ≥18 years, BMI: ≥30 kg/m^2, Stable body weight (<5 kg change) ≥90 days
Note: Once-daily subcutaneous dosing in all arms, 4-week escalation steps in main arms, 2-week escalation steps in fast escalation arms

Phase 2 trial purpose and endpoints

Purpose

- To assess and compare the dose response of five doses of once-daily sc semaglutide versus placebo in inducing and maintaining weight loss after 52 weeks
- To investigate two different dose escalation regimens

Trial design

- Randomised, controlled, double-blinded
- Diet and exercise counselling in all arms

Primary endpoint

- Relative change from baseline in body weight at 52 weeks

Examples of secondary endpoints

- Proportion of subjects with weight loss of ≥ 5% or ≥ 10% of baseline body weight at 52 weeks

Results from phase 2 trial communicated in Q3 2017

QD: once-daily; sc: subcutaneous

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Long-acting obesity compounds in phase 1 development may have complimentary modes of action

Key features of compounds in phase 1 development for obesity

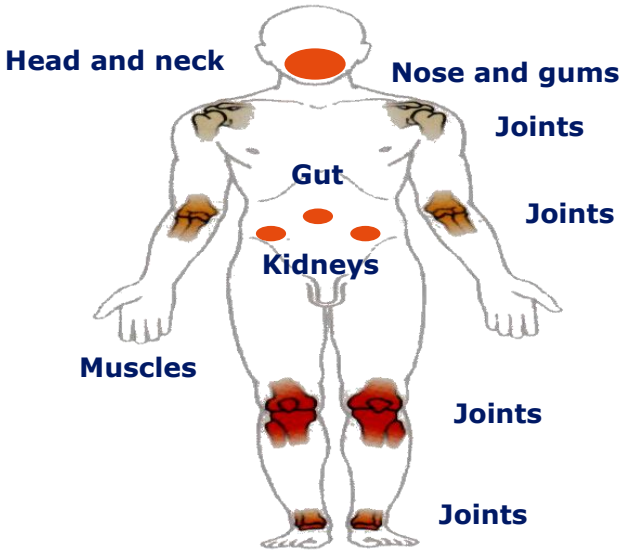
Compound	G530S – Glucagon analogue	NN9838 – Amylin analogue	NN9747 – PYY analogue	NN9499 – FGF21 analogue	NN9277 – GG-co-agonist	NN9423 – Tri-agonist 1706
Admin	Once-daily sc injection in combination with liraglutide	Once-daily sc injection	Once-daily sc injection	Once-daily sc injection	Once-weekly sc injection	Once-daily sc injection
Mode of action	Stimulation of energy expenditure and satiety	Reduced food intake, primarily to be mediated by amylin receptors	Reduced food intake via selective stimulation of the Y2 receptor	FGF21-induced weight loss presumed to be driven by energy expenditure	Stimulation of energy expenditure and satiety	Stimulation of energy expenditure and satiety
Phase 1 trial status	Expected completion 2017	Expected completion 2018	Expected completion 2019	Expected completion 2018	Expected completion 2018	Expected completion 2017

PK: pharmacokinetic; SC: Subcutaneous

Biopharmaceuticals

Haemophilia: Location of bleedings and the consequences

Locations



Consequences of bleedings

- Bleeding in the joint space causes a strong inflammatory reaction which predisposes to further bleeding
- Inadequate or delayed treatment of repeated joint bleeds results in a "target joint"
- The joint is tense, swollen and extremely painful and the mobility is restricted
- Eventually the cartilage erodes completely and permanent joint damage (arthropathy) occurs
- Treatment of arthropathy is orthopaedic surgery

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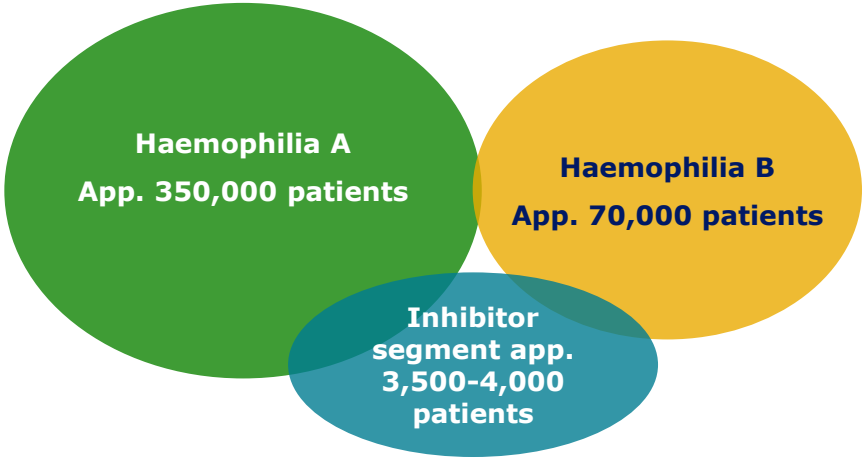
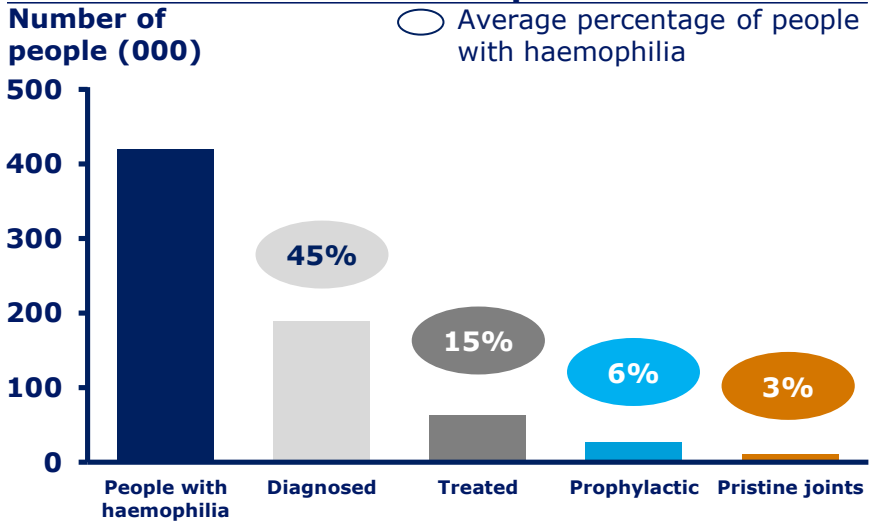
Haemophilia is a rare disease with severe unmet medical needs

Number of people with haemophilia A and B and haemophilia with inhibitors



Note: The inhibitor segment represents people with haemophilia and high titre inhibitors to their normal replacement treatment
Source: Estimates based on prevalence data in literature (Stonebraker JS et al. Haemophilia. 2010; 16: 20-32), World Federation of Haemophilia – Annual Global Survey 2012, UDC database in the US

Low diagnosis and treatment rates within haemophilia



Source: World Federation of Haemophilia – Annual Global Survey 2012

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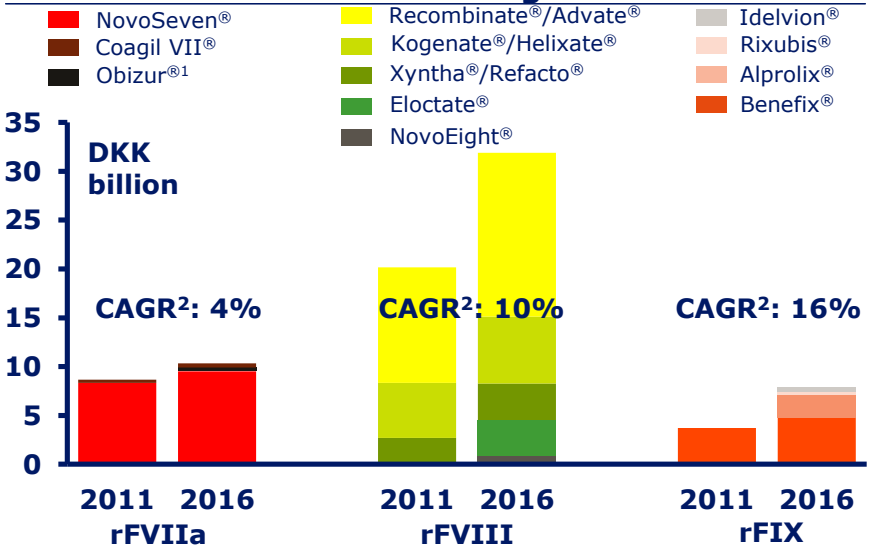
Global haemophilia market is growing by high-single digit

Sales of recombinant coagulation factors



[1] Obizur® only indicated for acquired haemophilia
[2] CAGR for 5-year period

Strategic positioning of Novo Nordisk's haemophilia portfolio

Novo Nordisk compound	Status	Strategic position
NovoSeven®	Launched	Maintain market leadership
NovoEight®	Launched	Establish presence in a competitive market place
N8-GP	Phase 3[3]	Contribute to market conversion
N9-GP	Filed[4]	Establish new treatment paradigm
NovoThirteen®	Launched	Launch first recombinant product

[3] Submission of N8-GP expected 2018 pending expansion of production capacity
[4] Positive opinion received by CHMP in March 2017; Submitted to the US Food and Drug Administration in May 2016

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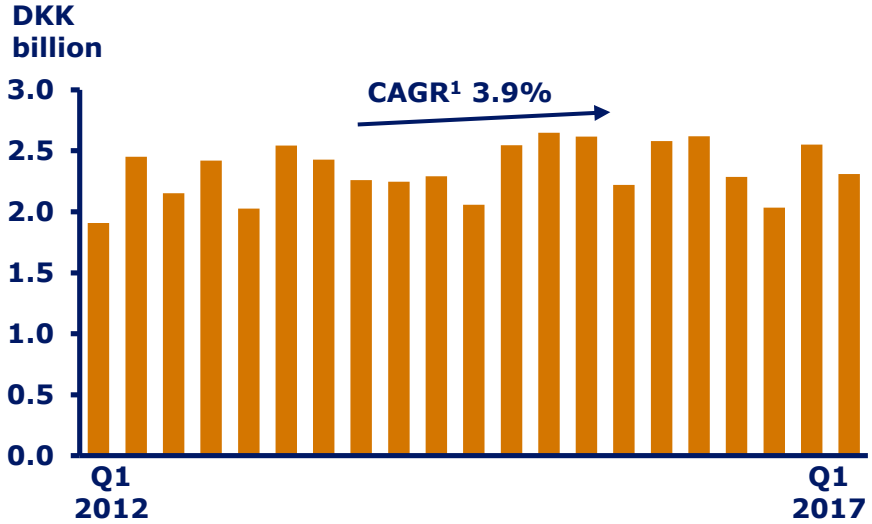
NovoSeven® – a unique biologic for the treatment of rare bleeding disorders

NovoSeven® reported quarterly sales



[1] CAGR for 5-year period

Key NovoSeven® properties

- **Product characteristics:** powder and solvent for solution for intravenous injection, available in multiple doses, stable at room temperature
- **MixPro®** administration system launched in 2013
- **Indications:** treatment of spontaneous and surgical bleedings in:
  - Haemophilia A or B patients with inhibitors
  - Acquired haemophilia
  - Congenital FVII deficiency
  - Glanzmann's thrombasthenia[2]

[2] Only indicated in Europe and the US

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NovoEight® is launched in the US, Europe and Japan for the treatment of people with haemophilia A

Example from NovoEight® promotional campaign[1]

[1] Picture is not intended for promotional purposes

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NovoEight® properties and launch performance

Indications:

- Treatment and prophylaxis of bleeding in patients with congenital factor VIII deficiency for all age groups[2]

Key product characteristics:

- Reliability: No inhibitor development in PTPs in one of the largest pivotal trial programmes of any approved rFVIII (n=213)[2,3]
- Purity and safety: First rFVIII to use a 20nm filter in its purification process[4]
- Portability: Room temperature stability with storage at 30 degrees celsius[2]

Launch status:

- NovoEight® is available in the US, EU, Japan
  - Regulatory approval in 43 countries
  - Commercial or technical launch in 26 countries

[2] NovoEight® Summary of Product Characteristics. [3] Iorio A et al., Blood 2012; 120(4): 720 – 727. [4] NovoEight® Prescribing Information
PTP: Previously treated patient

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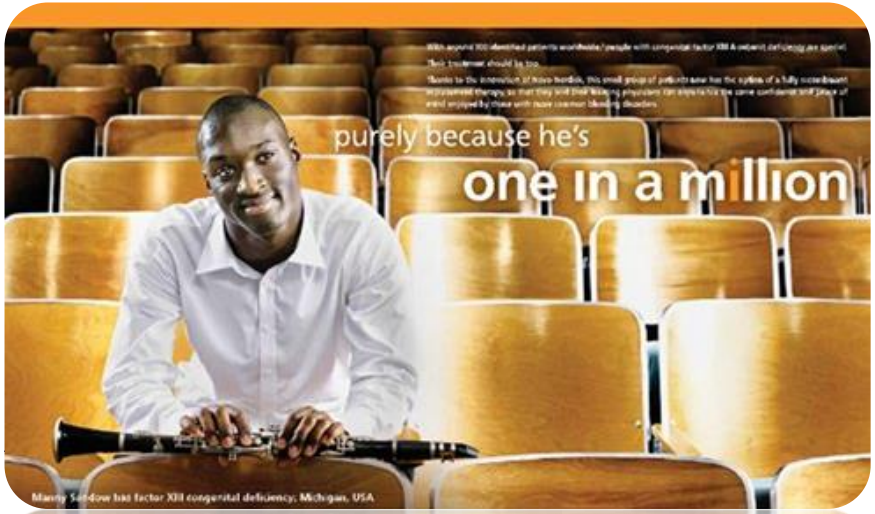
NovoThirteen®, a recombinant FXIII, provides efficacious and safe haemostatic coverage

Example from NovoThirteen® promotional campaign[1]



[1] Picture is not intended for promotional purposes

NovoThirteen® properties and launch performance

Indication:

- Long term prophylactic treatment of bleeding in adult and paediatric patients with congenital factor XIII A-subunit deficiency

Key product characteristics:

- NovoThirteen® is the only recombinant product for prophylaxis
- NovoThirteen® is well tolerated and has low volume dosing
- NovoThirteen® effectively prevents bleeds and provides a convenient once-monthly regimen

Launch status:

- NovoThirteen® is approved in Australia, Bahrain, Brazil, Canada, Colombia, EU, Iceland, Israel, Japan, Kuwait, Oman, Qatar, Saudi Arabia, Switzerland, and the US

Source: European Medicines Agency, summary of opinion (post-authorisation) 23 January 2014. NovoThirteen® Summary of product characteristics.

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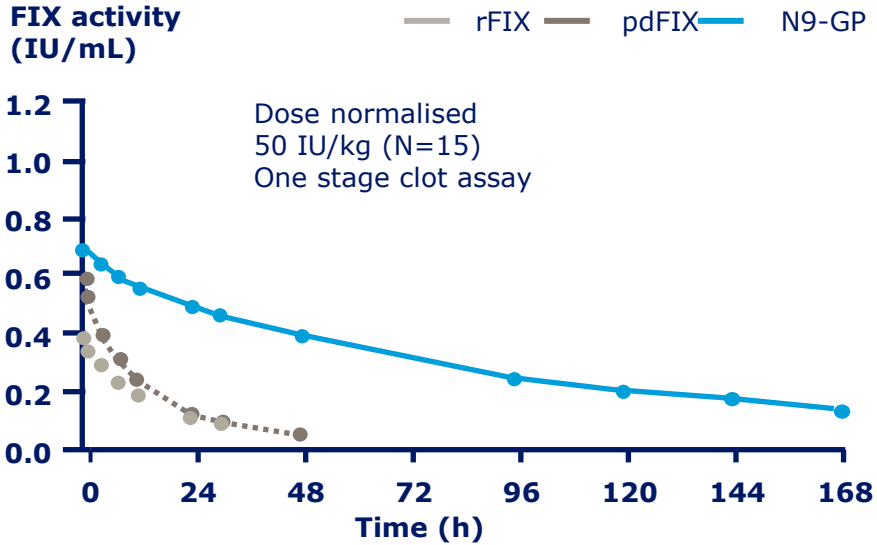
R&D pipeline: Haemophilia and growth disorders

Product/project	Type	Indication	Status (phase)				
			1	2	3	Filed	Appr.
N9-GP (NN7999)[1]	GlycoPEGylated long-acting rFIX	Haemophilia B					
N8-GP (NN7088)	GlycoPEGylated long-acting rFVIII	Haemophilia A					
Concizumab (NN7415)[2]	Monoclonal anti-TFPI	Haemophilia A, B and with inhibitors					
Somapacitan (NN8640)[3]	Once-weekly human growth hormone	Growth disorder					
Sc N8-GP (NN7170)	Phase 1 trial	Haemophilia A					

[1] Positive opinion received by CHMP in April 2017 and submitted to the US Food and Drug Administration in May 2016
[2] Phase 1b trial completed
[3] Phase 3 completed in Adult Growth Hormone Deficiency (AGHD)
Sc: Subcutanious

N9-GP administered once weekly reduces median bleeding rate to 1.0 episode per year in phase 3 trial

N9-GP phase 1 pharmacokinetics



rFIX: Recombinant factor IX; pdFIX: plasma-derived factor IX
Source: Negrier et al. Blood. 2011;115:2693-2701

Paradigm 2 headline results (phase 3)

- Steady-state half life of 110 hours
- Median bleeding rate for patients treated on demand was 15.6 episodes per year
- Patients on once-weekly prophylactic treatment had a medium bleeding rate of 1.0 episode per year when treated with 40 IU/kg
- Among patients receiving 40 IU/kg:
  - 99% of bleeding episodes treated with only one infusion
  - Two thirds of patients experienced complete resolution of bleeding into target joints
- N9-GP appeared to have a safe and well tolerated profile with no patients developing inhibitors

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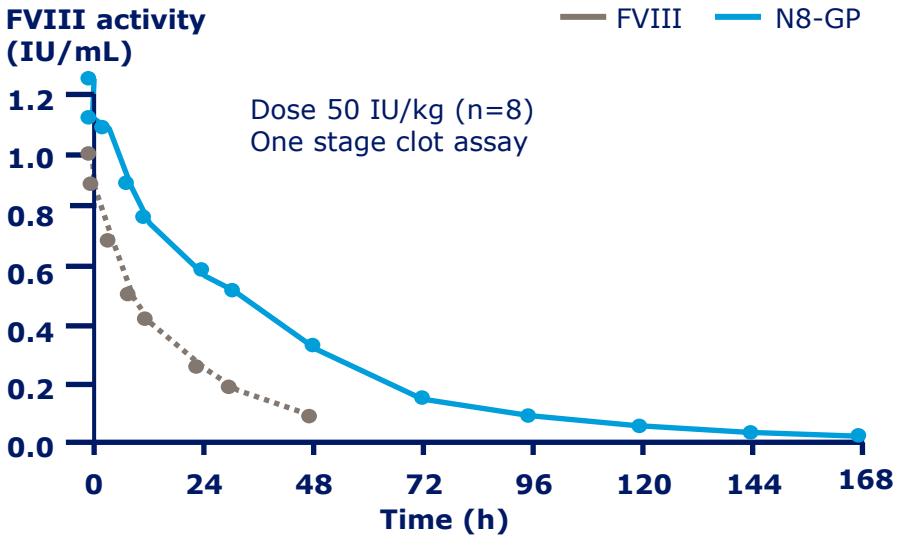
N8-GP administered every fourth day reduces median bleeding rate to 1.3 episode per year in phase 3 trial

N8-GP phase 1 pharmacokinetics



Source: Tiede et al. J Thromb Haemot. 2013;11:670-675

Pathfinder 2 headline results (phase 3)

- PK documented single dose half-life of 18.4 hours and mean trough level before next dose of 3%
- Patients on every fourth day prophylaxis (50 IU/kg) had a median ABR of 1.3
- 95% of mild to moderate bleeds managed with 1-2 doses
- N8-GP appeared to have a safe and well tolerated profile
- One patient developed inhibitors, as expected in a population of previously treated haemophilia A patients

Pathfinder 2 extension trial results

- 55 patients with ≤2 bleeds during 6 months in the main phase were randomised 2:1 to either once-weekly (75 IU/kg) or every fourth day (50 IU/kg) treatment for 180 days[1]
- Patients in both treatment arms had a median ABR of 0

Next steps

- Expansion of production capacity; US/EU submission 2018

PK: Pharmacokinetic; ABR: Annualised bleeding rate; IU: International unit
[1] Prophylaxis 75 IU/kg every 7 days (n=38) or prophylaxis 50 IU/kg every 4 days (n=17)

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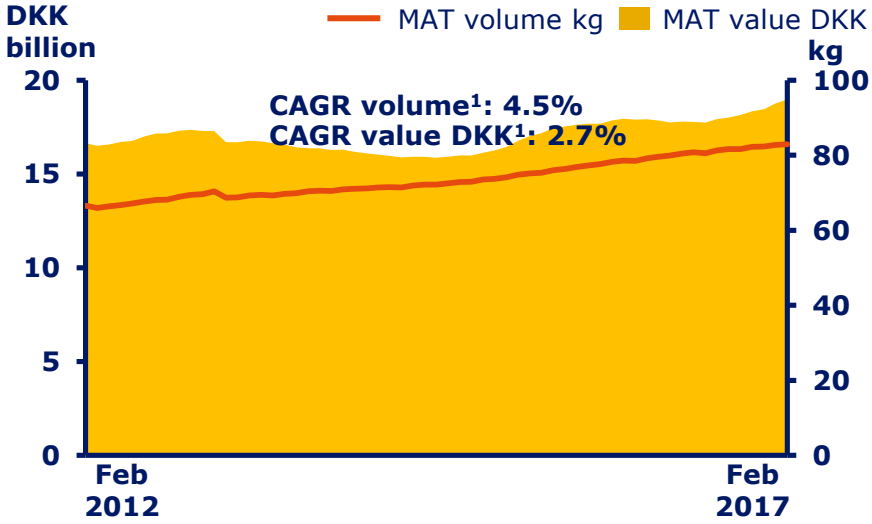
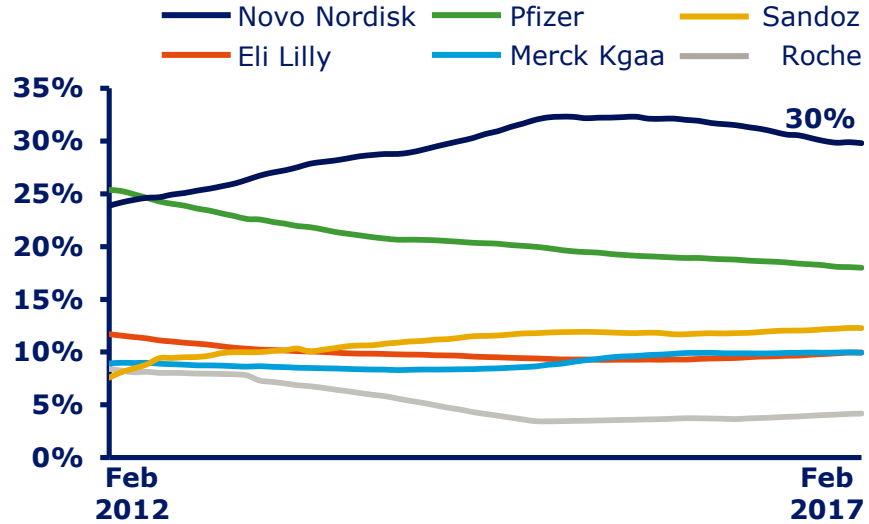
Novo Nordisk maintains leadership within human growth hormone (hGH) market

Development in global hGH market



Growth hormone volume market share



¹ CAGR for 5-year period

Source: IMS Monthly MAT February, 2017 volume figures and value (DKK) figures

Source: IMS Monthly MAT February, 2017 volume figures

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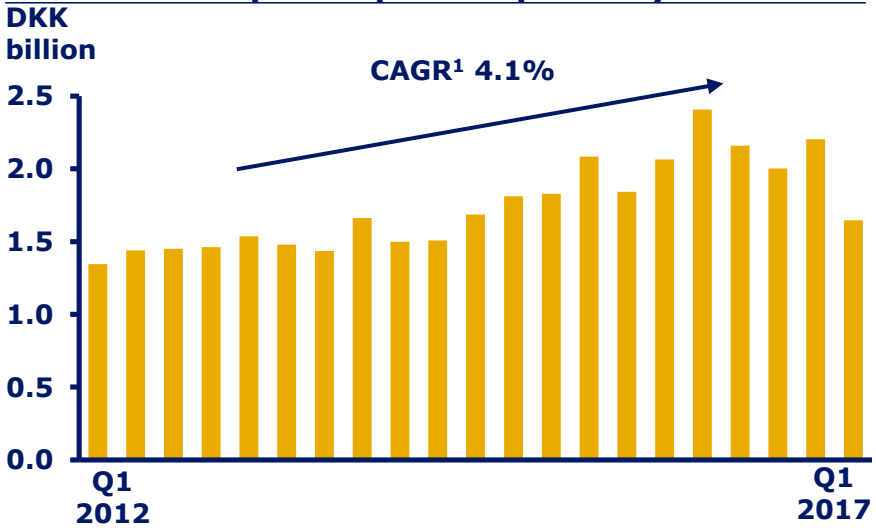
Solid Norditropin® sales growth

Norditropin® reported quarterly sales



¹ CAGR for 5-year period

Key Norditropin® properties

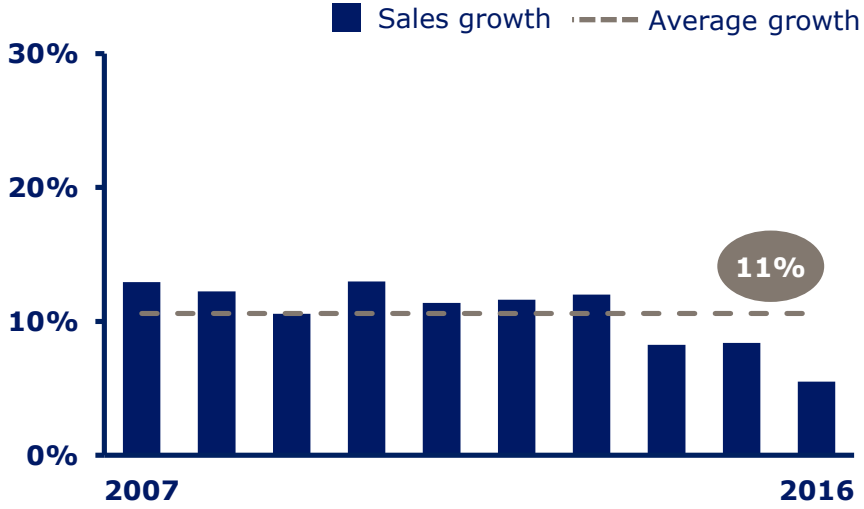
- **Product characteristics:** Premixed, prefilled multi-use delivery systems available in multiple strengths, and stable at room temperature
- **Expanded indications:** GHD, AGHD, Noonan Syndrome, Turner Syndrome, SGA indication, Idiopathic short stature
- **Easy to use FlexPro® device**
- **Medical and Clinical support programmes**
- **Patient support programmes**

GHD: Growth Hormone Deficiency; AGHD: Adult growth hormone deficiency
SGA: Small for Gestational Age

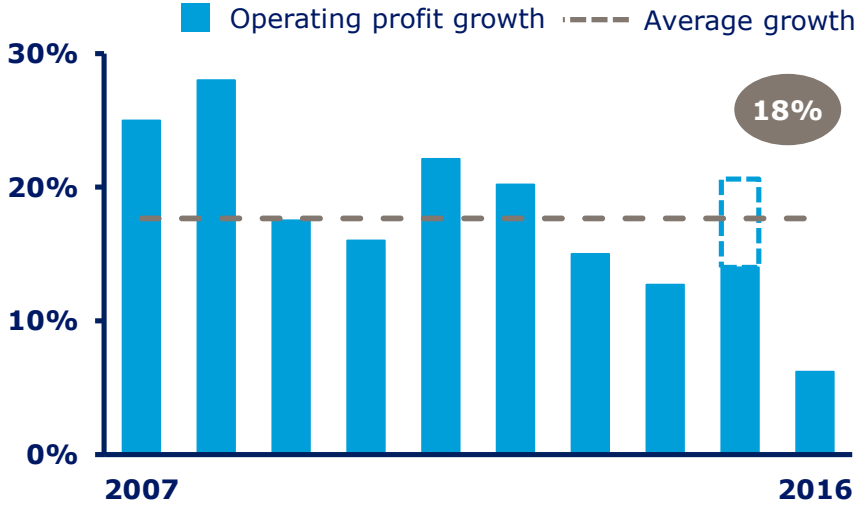
Financials

Novo Nordisk has delivered sustained growth throughout the last decade

Sales growth in local currencies 2007–2016



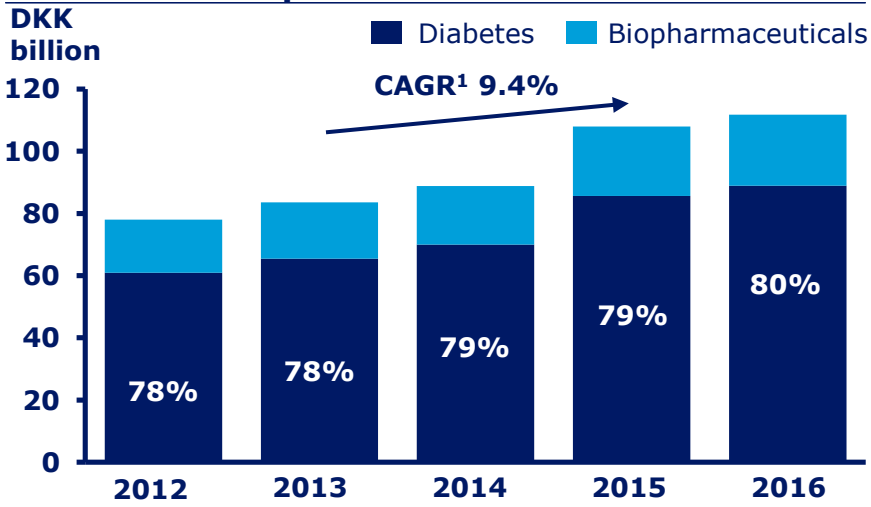
Operating profit growth in local currencies 2007–2016



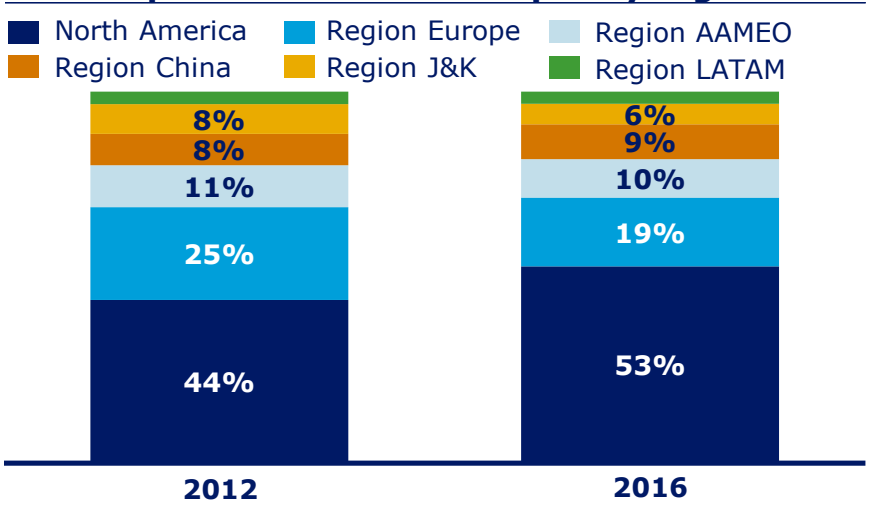
Note: Numbers for 2007 and 2008 are adjusted for the impact of the discontinuation of pulmonary insulin projects; Numbers for 2015 and 2016 are adjusted for the non-recurring income related to the partial divestment of NNIT with the dotted component representing this income; average is calculated excluding the effect of the 2015 non-recurring income.

Solid sales growth driven by the US

Reported annual sales



Reported annual sales split by region



[1] CAGR for 5-year period

AAMEO: Africa, Asia, Middle-East and Oceania; J&K: Japan and Korea; LATAM: Latin America

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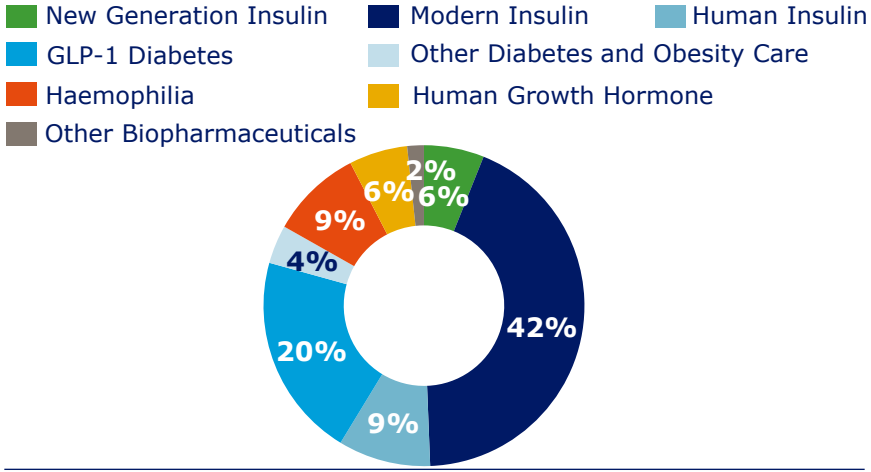
Modern insulin and Victoza® comprise more than 60% of total sales in the first three months of 2017

Reported sales split by product segments for the first three months of 2017



Sales of DKK 28.5 billion (+5%)

Reported sales split by selected key products for the first three months of 2017

Reported currencies	Sales (mDKK)	Sales split
Tresiba®	1,491	6%
Levemir®	4,012	14%
NovoRapid®	5,314	19%
NovoMix®	2,766	10%
Victoza®	5,750	20%
Saxenda®	539	2%
Diabetes and obesity care[1]	**23,761**	**84%**
NovoSeven®	2,311	8%
Norditropin®	1,646	6%
Biopharmaceuticals[1]	**4,691**	**16%**
Total[1]	**28,452**	**100%**

[1] Values are higher than the sum of the total elements listed due to residual values from products not listed

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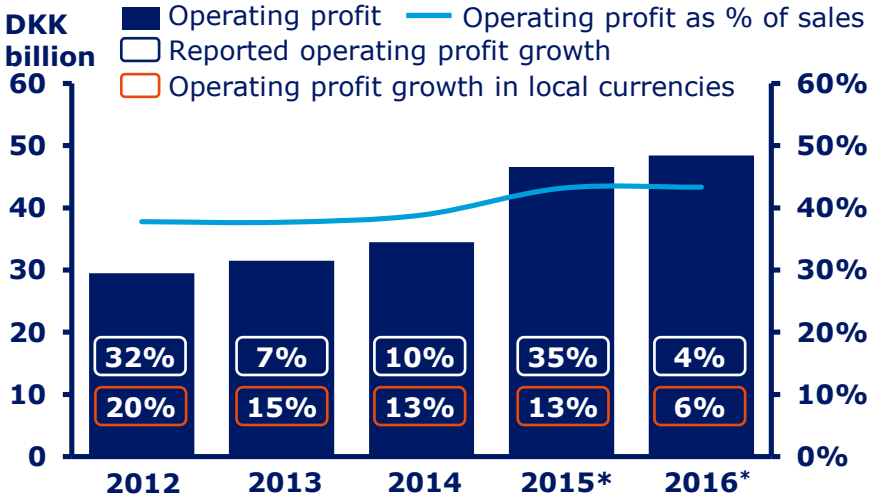
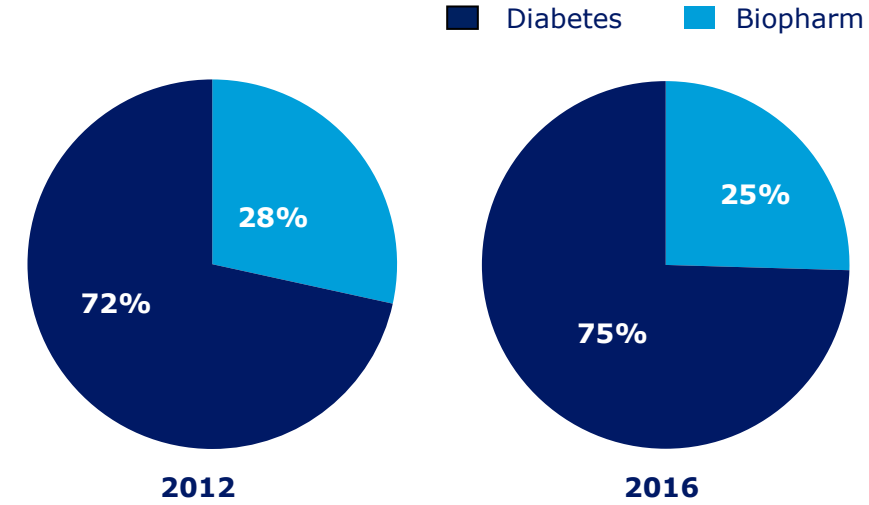
Solid operating profit growth driven by diabetes

Operating profit



Operating profit therapy split



* Adjusted for the partial divestment of NNIT A/S and inflammatory out-licensing in 2015

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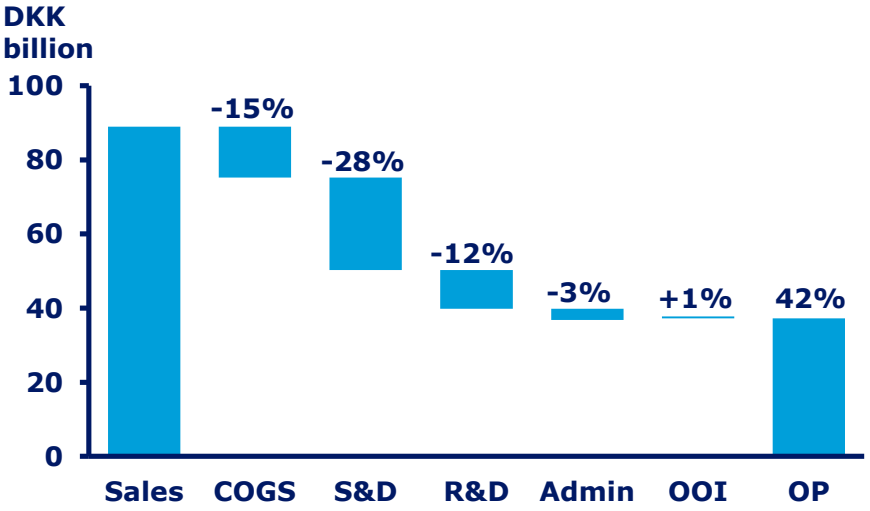
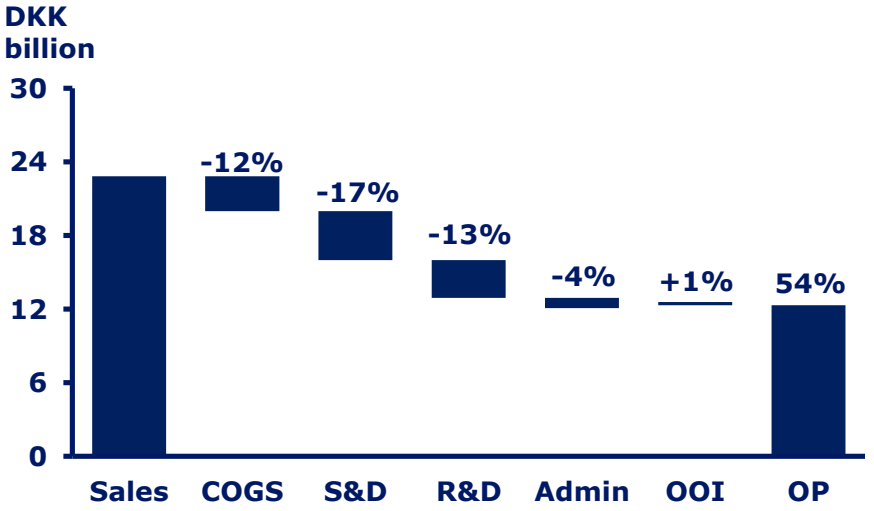
Higher profitability in the biopharmaceuticals segment driven by lower COGS and S&D

Diabetes & Obesity P&L – full year 2016



P&L: Profit and Loss; COGS: Cost of goods sold; OOI: Other operating income; OP: Operating profit
S&D: Sales and distribution cost; R&D: research and development cost; Admin: administrative cost

Biopharmaceuticals P&L – full year 2016



P&L: Profit and Loss; COGS: Cost of goods sold; OOI: Other operating income; OP: Operating profit
S&D: Sales and distribution cost; R&D: research and development cost; Admin: administrative cost

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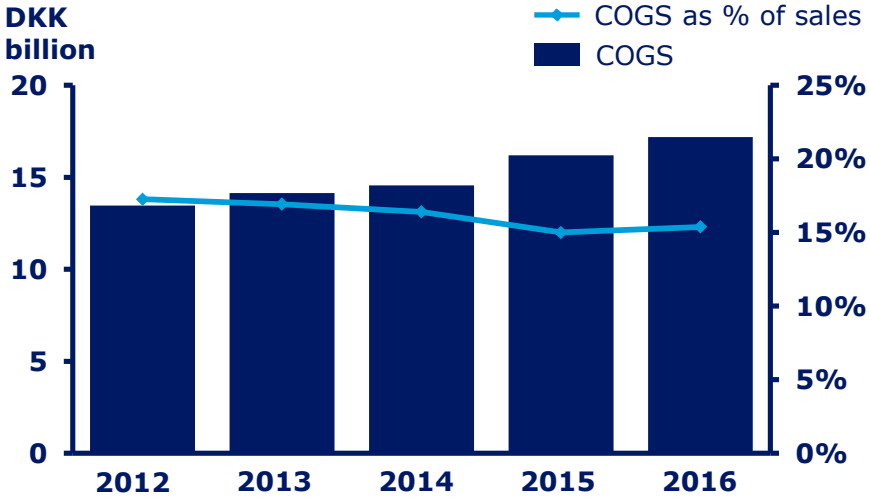
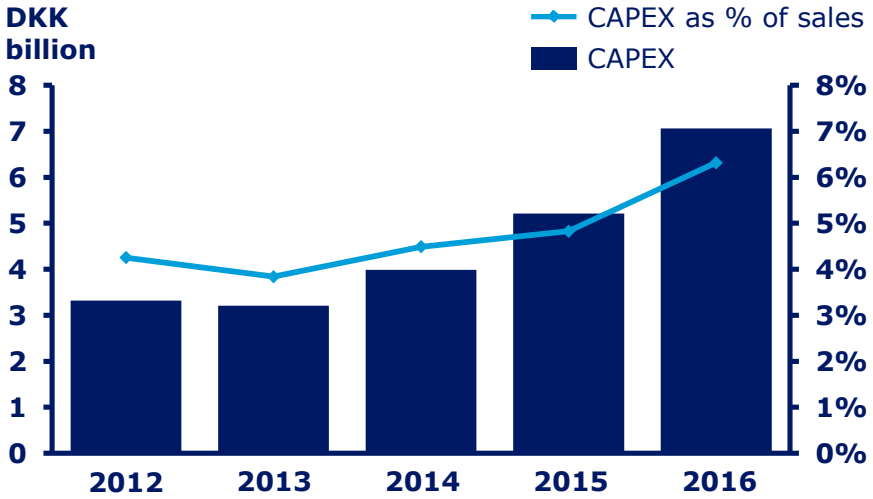
Stable COGS level as % of sales and increasing CAPEX level

Cost of Goods Sold (COGS)



Capital Expenditure (CAPEX)



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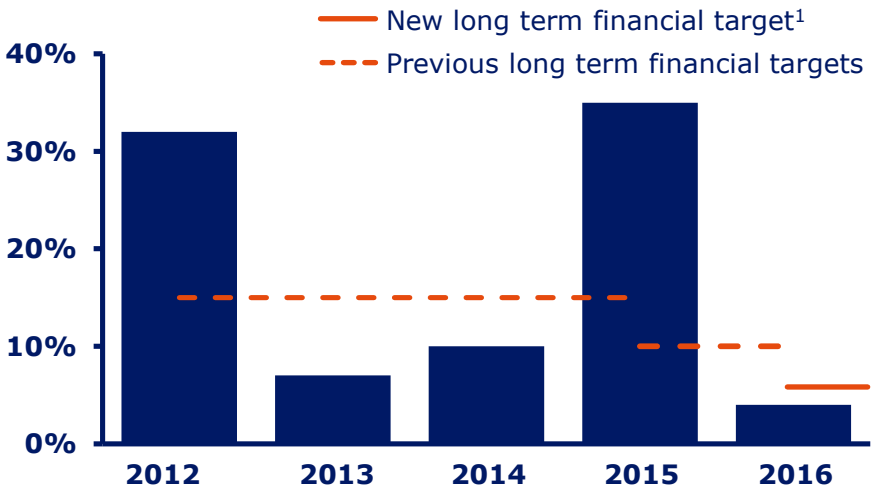
Long term financial targets:
Operating profit growth and operating margin

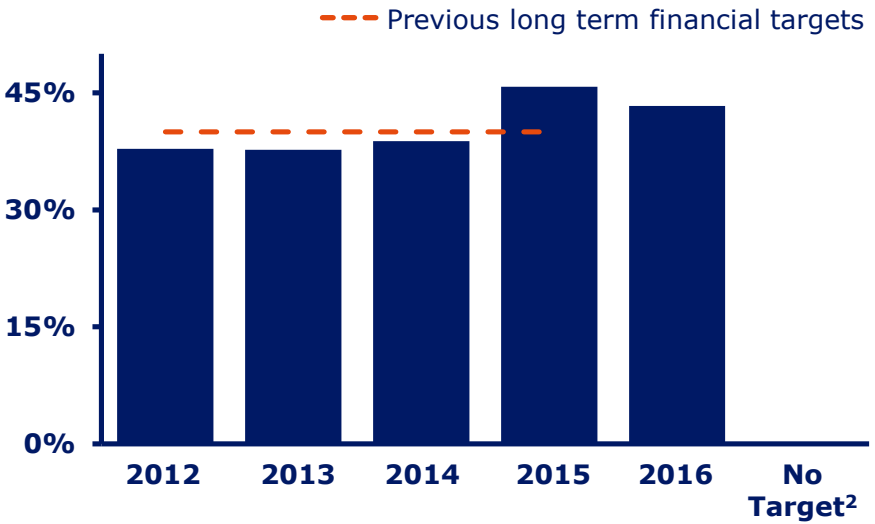
Operating profit growth



Note: The long term financial targets are based on an assumption of a continuation of the current business environment; 2015 and 2016 figures are adjusted for the partial divestment of NNIT A/S and inflammatory out-licensing in 2015

[1] New long term target established in connection with the Q3 2016 report

Operating margin



[2] The target for operating margin was discontinued in connection with the updated long-term financial targets in Q4 2015

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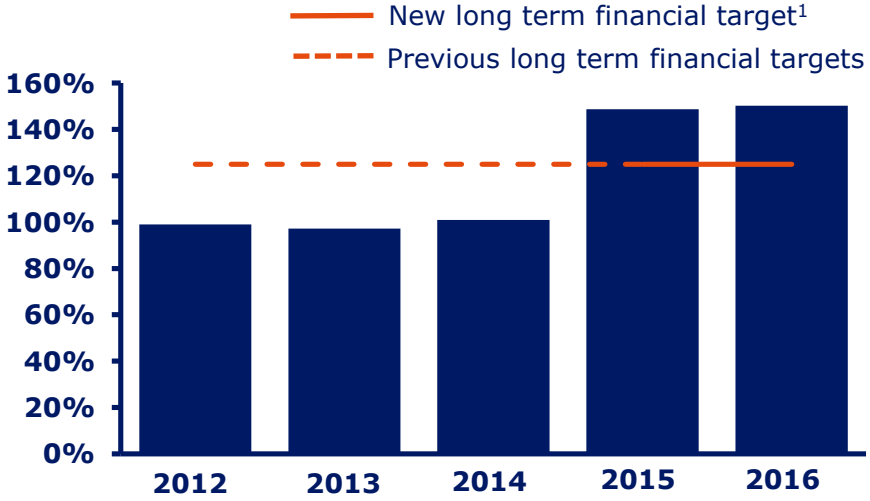
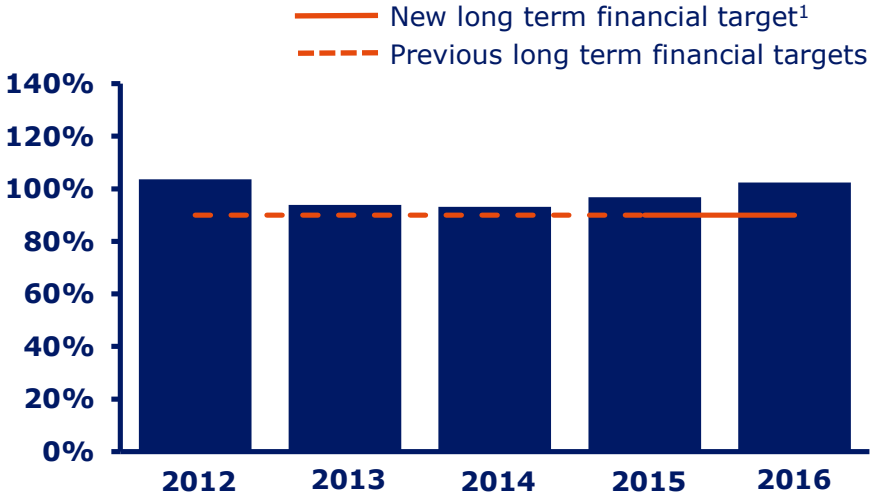
Long term financial targets:
Operating profit after tax to net operating assets and cash to earnings

Operating profit after tax to net operating assets



Cash to earnings (three year average)



Note: The long term financial targets are based on an assumption of a continuation of the current business environment

[1] New long term target established in connection with the Q3 2016 report

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Key assumptions supporting the long-term financial target of an average of 5% operating profit growth[1]

Expected future sales drivers, partly offset by expected 2-3% negative global pricing impact

Insulin	• Continued underlying 3-4% volume growth of the global insulin market • Market share gains and value upgrades driven by the new generation franchise
GLP-1	• Continued expansion of the GLP-1 market with underlying volume growth of >10% annually • Solid market leadership with Victoza® supported by semaglutide launch (exp 2018)
Obesity	• Continued expansion of the obesity market with Saxenda® in the US • Successful launches in new markets
Biopharm	• Limited growth of the biopharm franchise mainly due to increased competition in the haemophilia space • Potential for bolt-on activity to support growth

[1] New long term financial target established in connection with the Q3 2016 report. The target of 5% operating profit growth is an average for the period of 4-5 years, with 2015 as the base year.

Expected future cost drivers

GM	• 1-3 percentage points decline expected as a result of US pricing impact, partly offset by mix effect and productivity gains
S&D	• 2-3 percentage points decline expected in the S&D to sales ratio • Lower growth in S&D costs mainly driven by focused promotional activities in the US
R&D	• Around 13% R&D to sales ratio expected to remain unchanged • Refocused research efforts releasing resources to be invested in adjacent disease areas
Admin	• Admin to sales ratio expected to decline to around 3% • Lower growth in admin costs driven by various savings initiatives

GM: Gross margin

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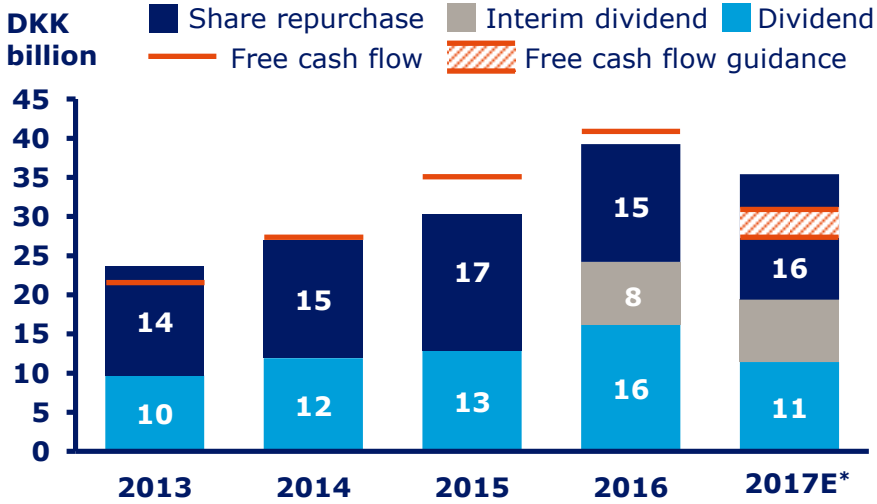
Organic growth enables steady cash return to shareholders via dividends and share repurchase programmes

Annual cash return to shareholders



Cash return priorities and business development activities

Cash return priorities

- Dividend to match pharma peer-group
- Dividend distributed twice a year as interim in August and final in connection with the Annual General Meeting in March the following year
- Share repurchase to at least correspond to remaining cash flow
- The total 2017 programme may be reduced in size, if significant product in-licensing or bolt-on acquisition opportunities are undertaken during 2017

Business development activities

- External academic and business collaborations
- Bolt-on within Biopharm and adjacent disease areas
- Ramp-up in internal organisational capabilities

* Interim dividend for 2017 not decided. For illustration only.
Note: Dividends are allocated to the year of dividend pay. For 2017 expected free cash flow is DKK 29-33 billion. Share repurchase programmes run for 12 months starting February until end January of the following year.

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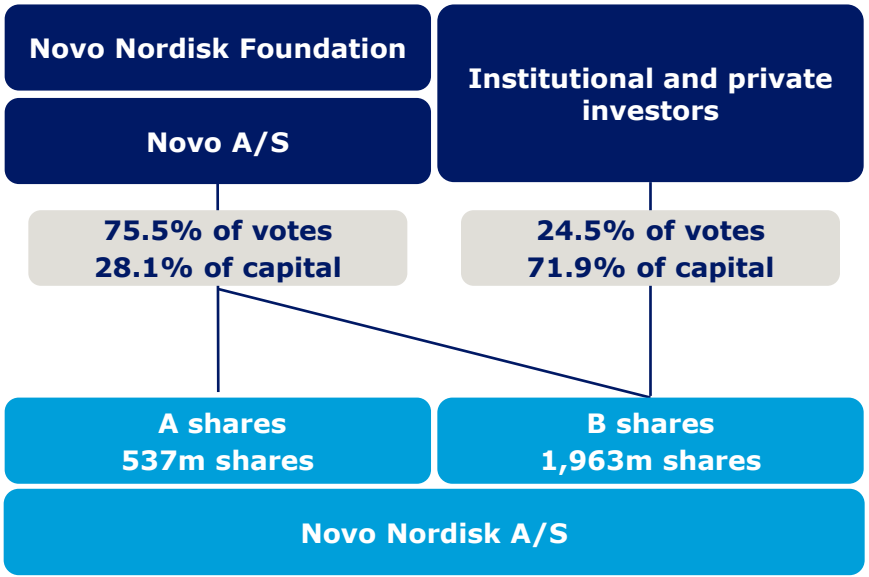
Stable ownership structure
- secured through A and B-share structure

Share structure



Note: Treasury shares are included in the capital but have no voting rights

The Novo Nordisk Foundation

- The Novo Nordisk Foundation is a self-governing institution that:
  - provides a stable basis for Novo Nordisk
  - supports scientific, humanitarian and social purposes
- All strategic and operational matters are governed by the board and management of Novo Nordisk
- Overlapping board memberships ensure that the Novo Nordisk Foundation and Novo Nordisk share vision and strategy

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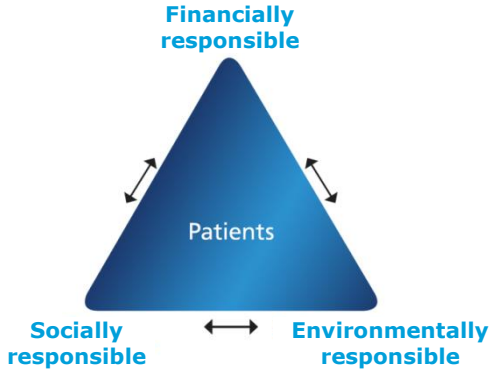
Sustainability

The Novo Nordisk Way

We build on the purpose set by our founders and live by their values: The **Novo Nordisk Way** sets the direction and unites us around a common purpose in the pursuit of our aspirations

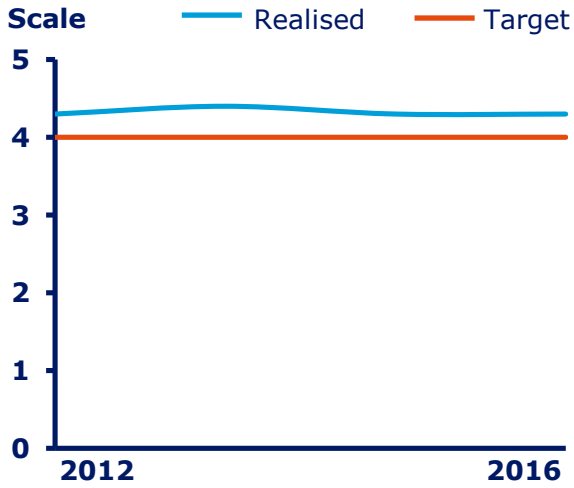
The Triple Bottom Line Business Principle



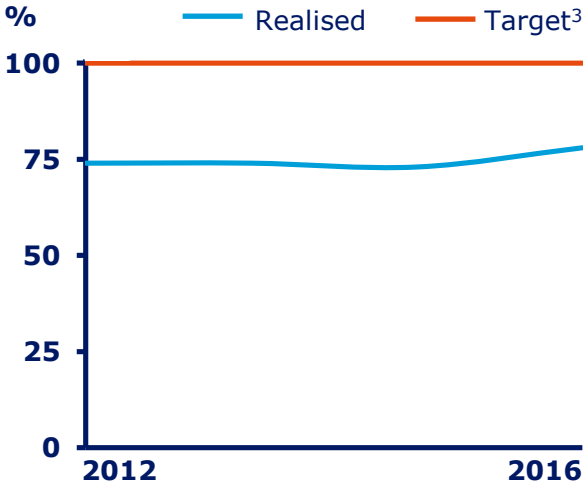
The **Triple Bottom Line Principle** guides how we do business responsibly and how we make decisions that consider the interests of stakeholders and the long-term interests of our shareholders

2016 performance towards achieving long-term sustainability goals

Working the Novo Nordisk Way[1]



Share of renewable power for production



Operating profit growth

[1] Average score in annual employee survey (1-5)
[2] 2015 and 2016 adjusted for the partial divestment of NNIT A/S and inflammatory out-licensing in 2015
[3] Target to be met by 2020
[4] Target updated in connection with the Q3 2016 earnings statement

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Cities Changing Diabetes aims to break the 'Rule of Halves' and stop urban diabetes from ruining millions of lives

Global partnerships to develop an approach to fight urban diabetes

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City Leaders

UCL

C40 CITIES
CLIMATE LEADERSHIP GROUP

- Map the challenge in selected cities
- Share learning and best practices on how to break the 'Rule of Halves'
- Drive action plans with local partners
- Identify opportunities for actions beyond the health sector

Urban diabetes: Type 2 diabetes in cities

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Eight partner cities are addressing the threat of urban diabetes

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Novo Nordisk is committed to the continued development of its employees

Employee health and safety and engagement are key focus areas for management

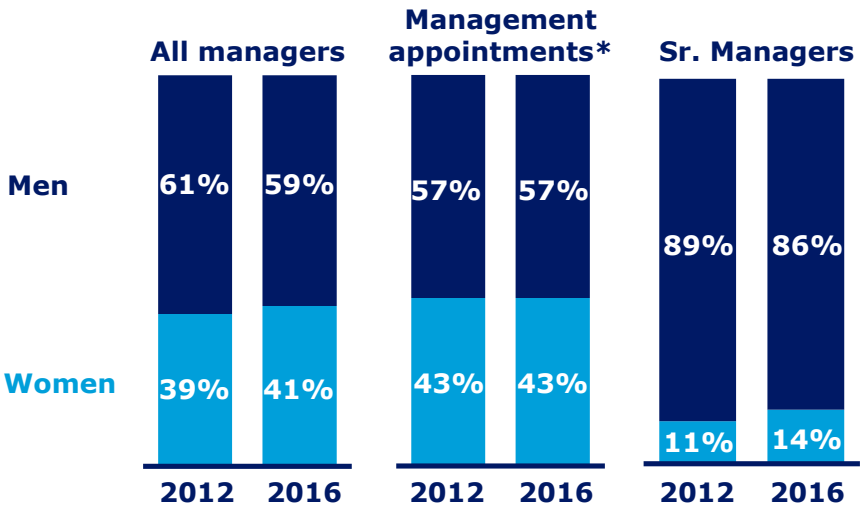
41,971 FTE employees and 3% growth vs LY[1]

4.4 engagement score with the Novo Nordisk Way

89.8% retention rate

3.0 accidents per million working hours

Novo Nordisk is committed to building a diverse and inclusive organisation



FTE: full-time employees
[1] Numbers account for FY 2016 vs FY 2015

* All appointments to management positions, incl. internal promotions and external hires, ex. NNIT

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