



novo nordisk – a focused healthcare company

Investor presentation
First six months of 2018

Shirley Adelia Stewart has type 2 diabetes
New Orleans, Louisiana, US



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 this presentation as well as the company's statutory Annual Report 2017 and Form 20-F, which are both filed with the SEC in February 2018 in continuation of the publication of the Annual Report 2017, 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 recalls, 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.

For an overview of some, but not all, of the risks that could adversely affect our results or the accuracy of forward-looking statements in this presentation, reference is made to the overview of risk factors in 'The Risks of Doing Business' on pp 40-43 of the Annual Report 2017.

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 six months of 2018

Sales development

- Sales decreased by 5% in Danish kroner and increased by 4% in local currencies to DKK 54.3 billion
 - International Operations sales increased by 1% in Danish kroner and grew by 8% in local currencies
 - Region AAMEO sales increased by 1% in Danish kroner and grew by 15% in local currencies
 - Region Latin America sales increased by 19% in Danish kroner and grew by 46% in local currencies
 - Region China increased by 2% in Danish kroner and grew by 6% in local currencies
 - North America Operations sales decreased by 10% in Danish kroner and was unchanged in local currencies
 - The GLP-1 diabetes franchise increased by 14% in local currencies and accounted for 77% share of growth

Research and Development

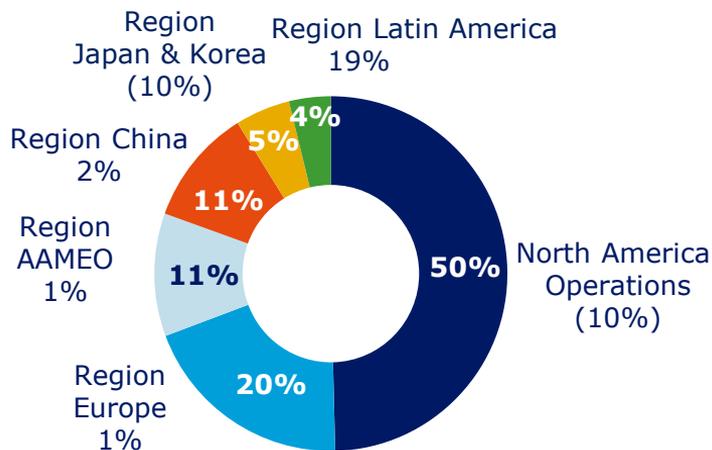
- Successful completion of additional four phase 3a trials, PIONEER 2, 3, 4 and 7, with oral semaglutide
- Ozempic® label updated in the EU to reflect updated device offering
- Updated CVOT plans for Ozempic® and oral semaglutide to use a bridging strategy between SUSTAIN 6 and PIONEER 6 trials
- Four phase 3a STEP trials with injectable semaglutide 2.4 mg for people with obesity initiated
- Positive results from phase 2 trial with somapacitan in children with growth hormone deficiency

Financials

- Operating profit decreased by 8% in Danish kroner and increased by 4% in local currencies to DKK 24.7 billion
- Net profit increased by 5% to DKK 21.1 billion
- Diluted earnings per share increased by 7% to 8.66 DKK per share
- 2018 financial outlook:
 - Sales growth is still expected to be 3-5% measured in local currencies (now around 5% lower reported)
 - Operating profit growth is still expected to be 2-5% measured in local currencies (now around 7% lower reported)
- An interim dividend of DKK 3.00 per share of DKK 0.20 will be paid in August 2018

Sales growth driven by International Operations

Sales as reported – first six months of 2018



Sales of DKK 54.3 billion (5%)

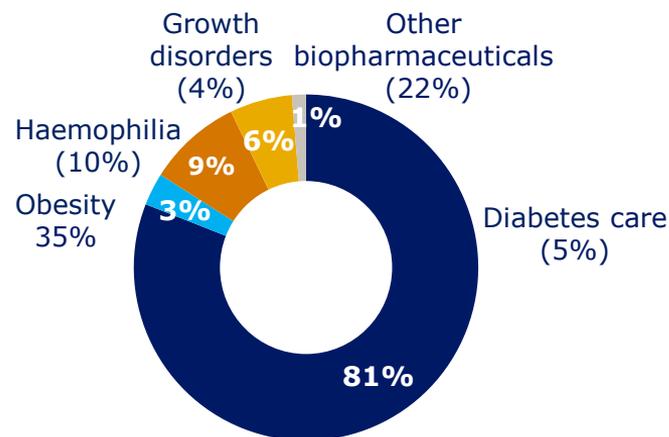
Growth break down – first six months of 2018

Local currencies	Growth	Share of growth
North America Operations	0%	1%
Hereof USA	0%	(6%)
International Operations	8%	99%
Region Europe	2%	8%
Region AAMEO	15%	42%
Region China	6%	16%
Region Japan & Korea	(3%)	(4%)
Region Latin America	46%	37%
Total sales	4%	100%

AAMEO: Africa, Asia, Middle East & Oceania

Sales growth of 4% measured in local currencies mainly driven by Victoza[®], Ozempic[®] and Saxenda[®]

Sales as reported – first six months of 2018



Sales of DKK 54.3 billion (5%)

Growth break down – first six months of 2018

Local currencies	Growth	Share of growth
Long-acting insulin ¹	(3%)	(17%)
Premix insulin ²	1%	3%
Fast-acting insulin ³	2%	9%
Human insulin	1%	4%
Total insulin	0%	(1%)
GLP-1 ⁴	14%	77%
Other diabetes care ⁵	2%	2%
Total diabetes care	4%	78%
Obesity (Saxenda [®])	50%	29%
Diabetes care and obesity total	5%	106%
Haemophilia ⁶	(2%)	(6%)
Growth disorders	5%	7%
Other biopharmaceuticals ⁷	(18%)	(7%)
Biopharmaceuticals	(1%)	(6%)
Total	4%	100%

¹ Comprises Tresiba[®], Xultophy[®] and Levemir[®]; ² Comprises Ryzodeg[®] and NovoMix[®]

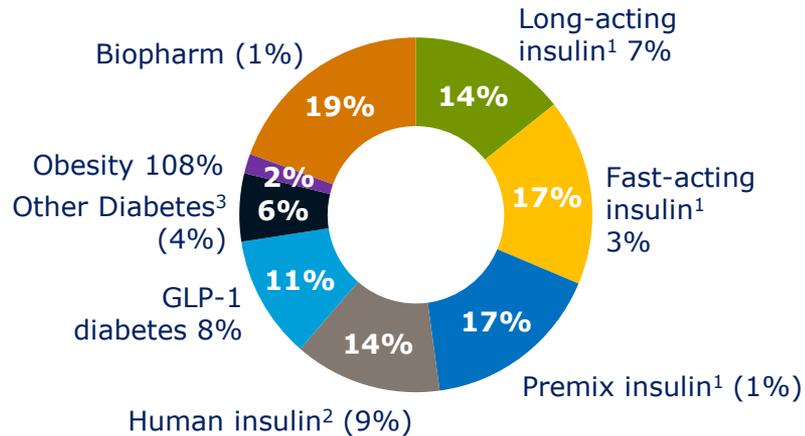
³ Comprises Fiasp[®] and NovoRapid[®]; ⁴ Comprises Victoza[®] and Ozempic[®]

⁵ Primarily NovoNorm[®] and needles; ⁶ Comprises NovoSeven[®], NovoEight[®],

NovoThirteen[®] and Refixia[®]; ⁷ Primarily Vagifem[®] and Activelle[®]

International Operations grew by 8% in H1 2018 mainly driven by insulin

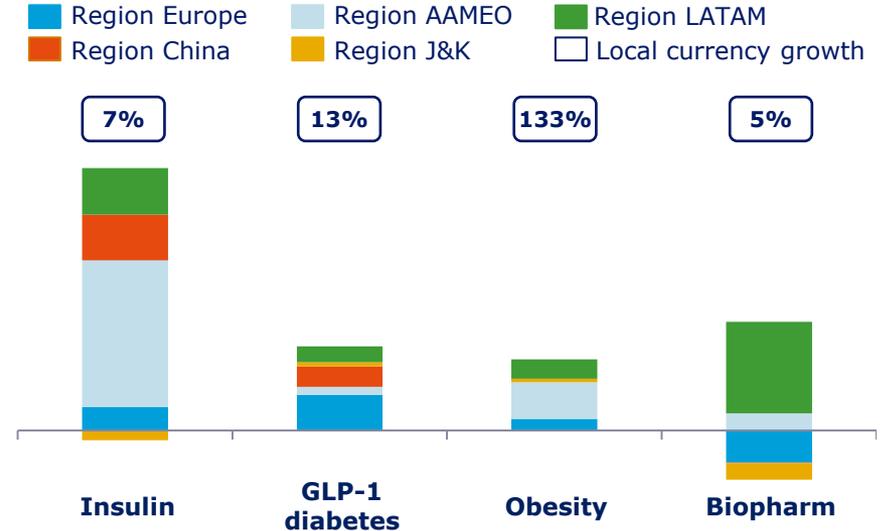
IO sales as reported by product segment



Reported sales of DKK 27.4 billion (1%)

Note: numbers in parentheses represent reported growth (H1 2018 vs. H1 2017), ¹ Modern and New-generation insulin, ² Human insulin covers all insulin segments, ³ Other Diabetes Care primarily covers NovoNorm®, needles and GlucaGen® HypoKit®

IO added sales in local currency by product segment and region

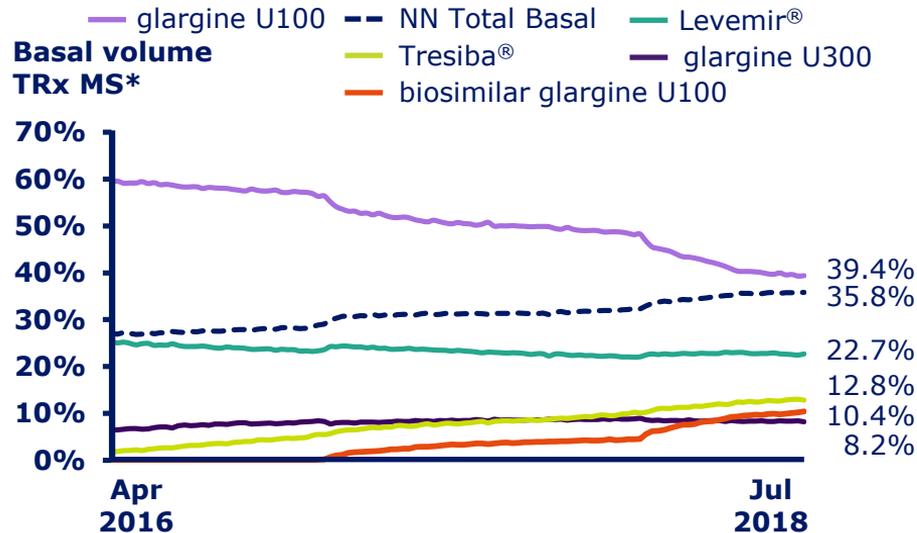


IO: International Operations
 LATAM: Latin America
 AAMEO: Africa, Asia, Middle East & Oceania
 J&K: Japan & Korea



Novo Nordisk volume market share is now ~36% of the basal insulin market in the USA

Weekly TRx volume market shares* in the USA



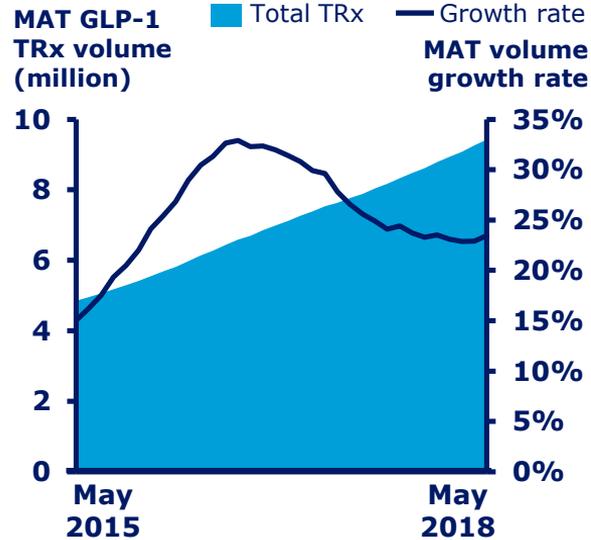
Note: The graph does not show NPH, which accounts for the residual market share
 Source: IQVIA weekly Xponent Plantrak (*excludes Medicaid), 6 Jul 2018
 TRx volume: Insulin volume in mega units (MU) associated with total number of prescriptions;
 VANTAGE FingerTip Formulary bridge, Jul 2018
 MS: Market share
 Medicaid represents ~12% of retail basal market volume

Tresiba® launch in the USA

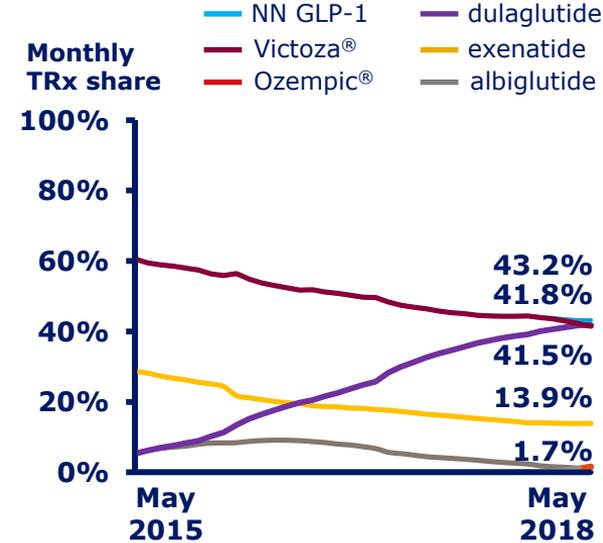
- Tresiba® volume market share is now around 13%. Tresiba® has gained around 3% market share since the beginning of 2018
- Tresiba® formulary access is above 80% for Commercial and Medicare Part D combined
- Main market share driver in first half of 2018 has been the formulary change at CVS part D
- In mid-April 2018, promotional activities were initiated to promote the updated Tresiba® label, including a 40% reduction of severe hypoglycaemic events compared to insulin glargine U100.

Novo Nordisk's GLP-1 franchise on positive trajectory in the US with Ozempic® launched and 24% market volume growth

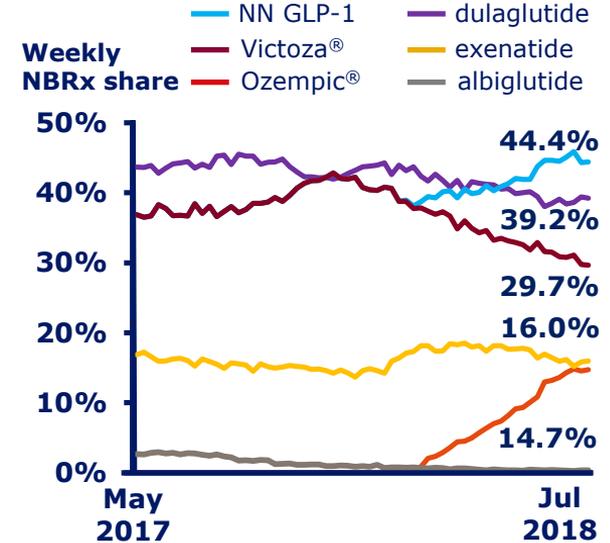
USA GLP-1 market development



USA GLP-1 volume market share



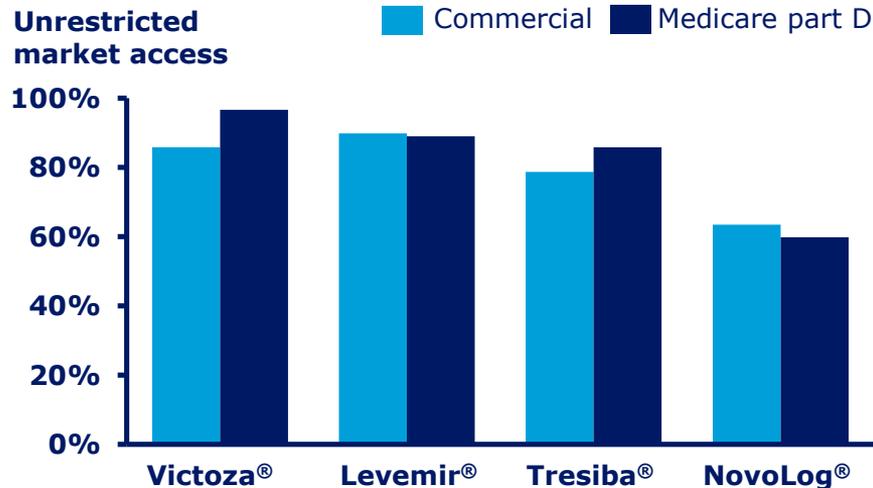
USA GLP-1 NBRx market share



Source: IQVIA NPA monthly, May 2018, NBRx-IQVIA LRx Weekly, week ending 20/07/2018

Market access for the diabetes portfolio expected to be broadly unchanged in 2019

Current level of unrestricted market access for key Novo Nordisk diabetes products in the USA



Source: FingerTip Formulary, May 2018

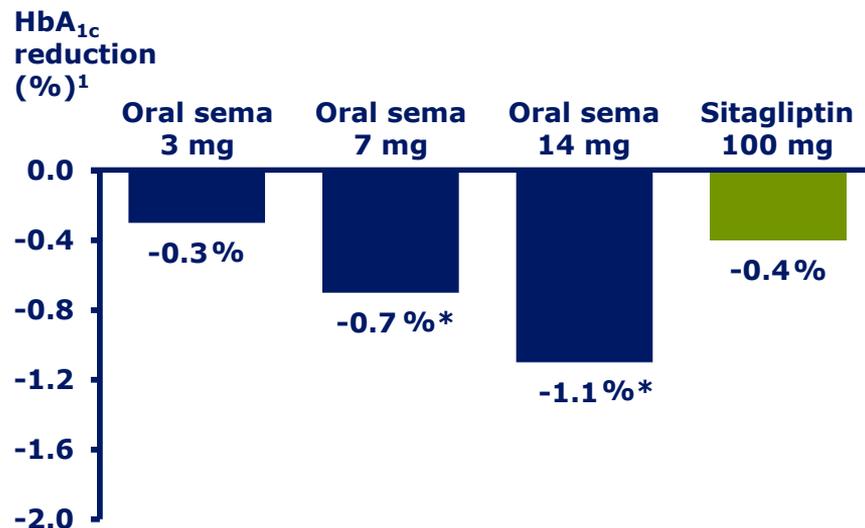
Note: Unrestricted access excludes prior authorisation, step edits and other restrictions

US formulary negotiations and 2019 pricing

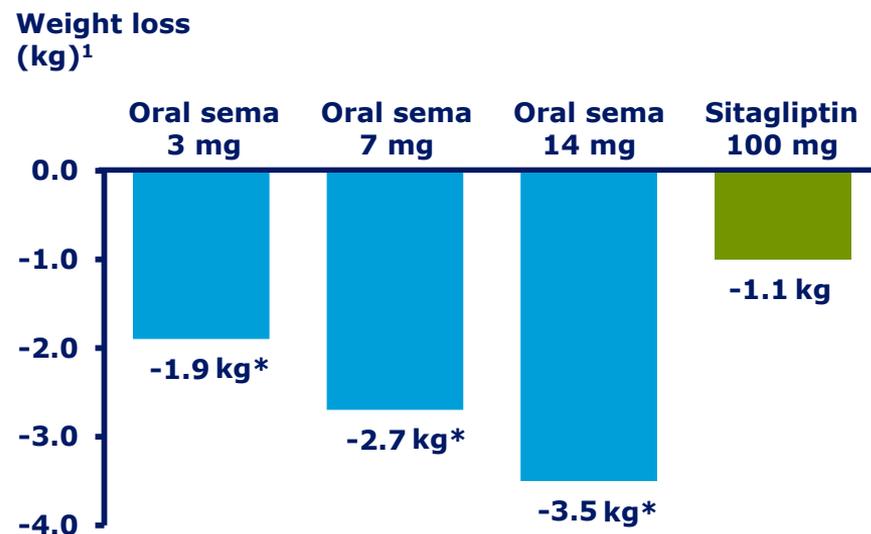
- Formulary negotiations with pharmacy benefit managers and managed care organisations in the USA are progressing
- Subject to final outcome of the negotiations, average prices after rebates are expected to be lower compared to 2018, predominantly due to basal insulin pricing and the changes to Medicare Part D coverage gap legislation
- Market access is anticipated to remain broadly unchanged across the diabetes portfolio at a level similar to 2018
- Current market access for Ozempic® is above 60% for commercial and Part D combined

In PIONEER 3 oral semaglutide showed superior reductions in HbA_{1c} and weight vs sitagliptin after 78 weeks

Reduction in HbA_{1c}
with oral semaglutide vs sitagliptin



Reduction in body weight
with oral semaglutide vs sitagliptin



¹ Results illustrated by using the secondary statistical method called hypothetical estimand after 78 weeks of treatment: Treatment effect, if all participants followed the treatment without rescue medication (analysed by using Mixed Models for Repeated Measurements (MMRM)). The statistical method is consistent with e.g. the statistical method used for the SUSTAIN programme for subcutaneous semaglutide.

* Statistically significant versus sitagliptin

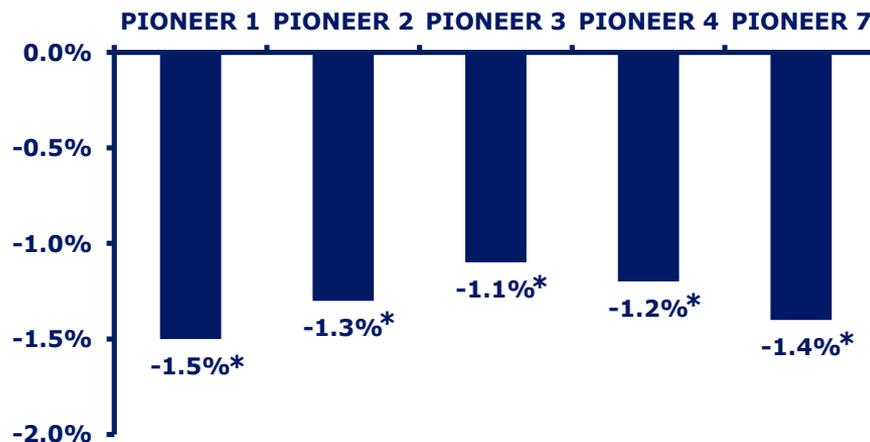
Sema: semaglutide



Oral semaglutide demonstrated a consistent reduction in HbA_{1c} and body weight in the completed PIONEER trials

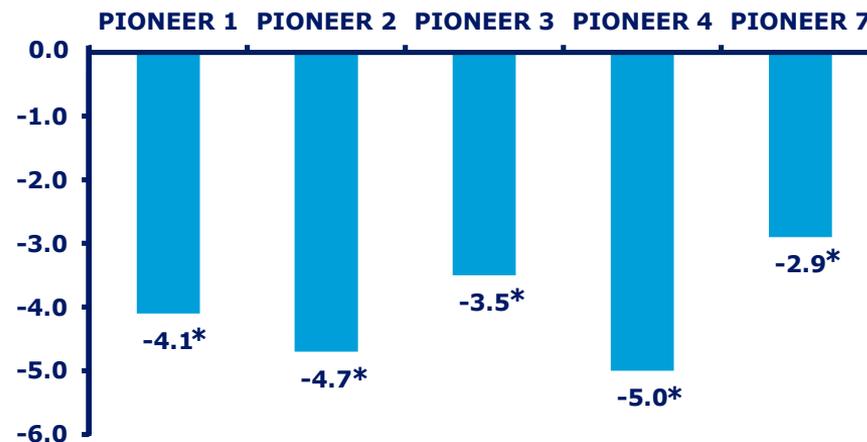
In completed PIONEER trials, oral semaglutide lowered HbA_{1c} by 1.1–1.5%-points by end of trial¹

Mean change in HbA_{1c} (%-points)



In completed PIONEER trials, oral semaglutide lowered body weight by ~3–5 kg by end of trial¹

Mean change in weight (kg)



¹ Hypothetical estimand, Mixed Model for Repeated Measurement (MMRM)

* Statistically significant vs comparator (PIONEER 1 vs placebo; PIONEER 2 vs empagliflozin 25 mg; PIONEER 3 vs sitagliptin 100 mg; PIONEER 4 vs Victoza® 1.8 mg; PIONEER 7 vs sitagliptin 100 mg)

Note: results shown are: PIONEER 1 for 26 weeks with 14 mg oral semaglutide; PIONEER 2 and 4 for 52 weeks with 14 mg oral semaglutide; PIONEER 3 for 78 weeks with 14 mg oral semaglutide; PIONEER 7 for 52 weeks with a mixed dose

Key development milestones

Diabetes

- Ozempic® label updated in the EU to reflect updated device offering
- Xultophy® label updated in the EU based on LEADER and DEVOTE data
- Successful completion of additional four phase 3a trials, PIONEER 2, 3, 4 and 7, with oral semaglutide
- Updated CVOT plans for Ozempic® and oral semaglutide to potentially use a bridging strategy between SUSTAIN 6 and PIONEER 6 trials to obtain CV label for Ozempic®
- Phase 3b trial with Victoza® as add-on to any SGLT2 inhibitor successfully completed
- Phase 3b trial Ellipse with Victoza® in children and adolescents (10-17 years) successfully completed

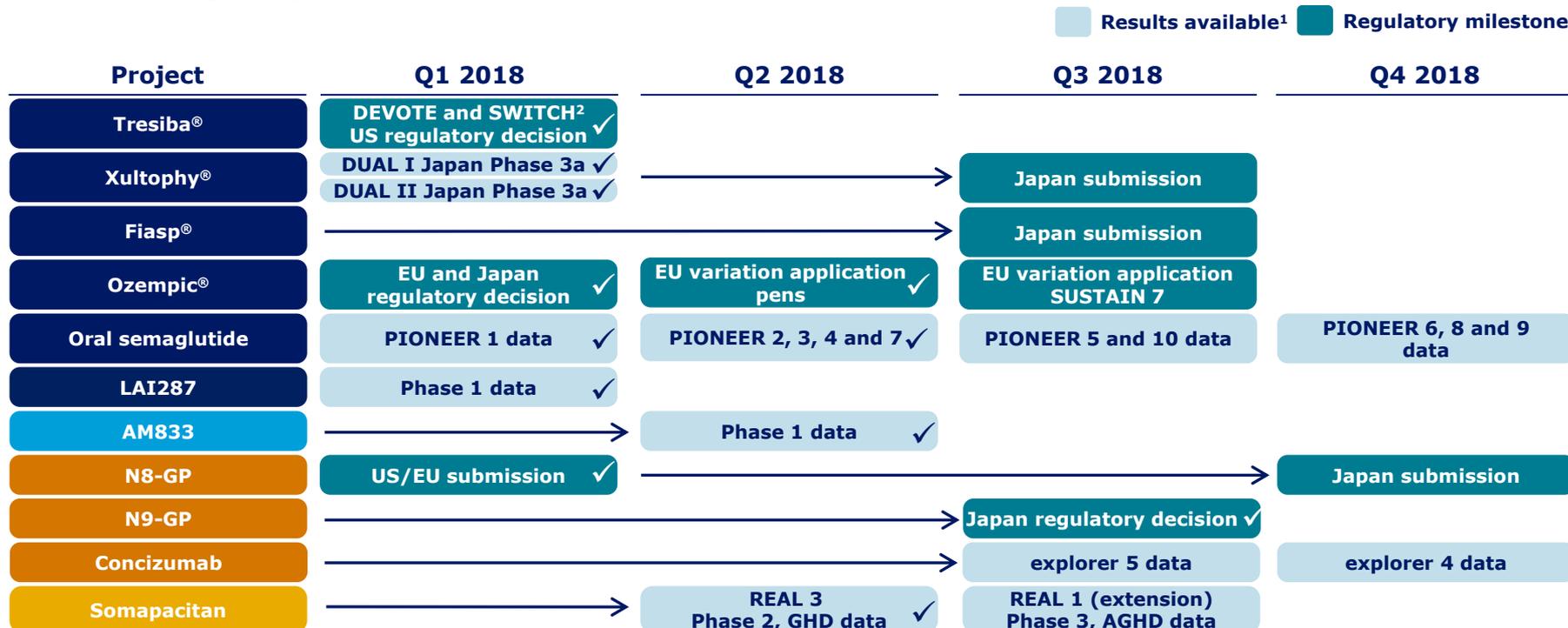
Obesity

- The four phase 3a, STEP trials, with injectable semaglutide 2.4 mg for people with obesity initiated
- Following the obesity portfolio review, FGF-21 and G530L have been discontinued

Biopharma

- Refixia® approved in Japan, with a broad label for people with blood coagulation factor IX deficiency
- Positive results from phase 2 trial with somapacitan for treatment of children with growth hormone deficiency

R&D milestones in 2018



■ Diabetes
 ■ Obesity
 ■ Haemophilia
 ■ Growth disorders

¹ Expected to be published in the given quarter or in the subsequent quarterly company announcement

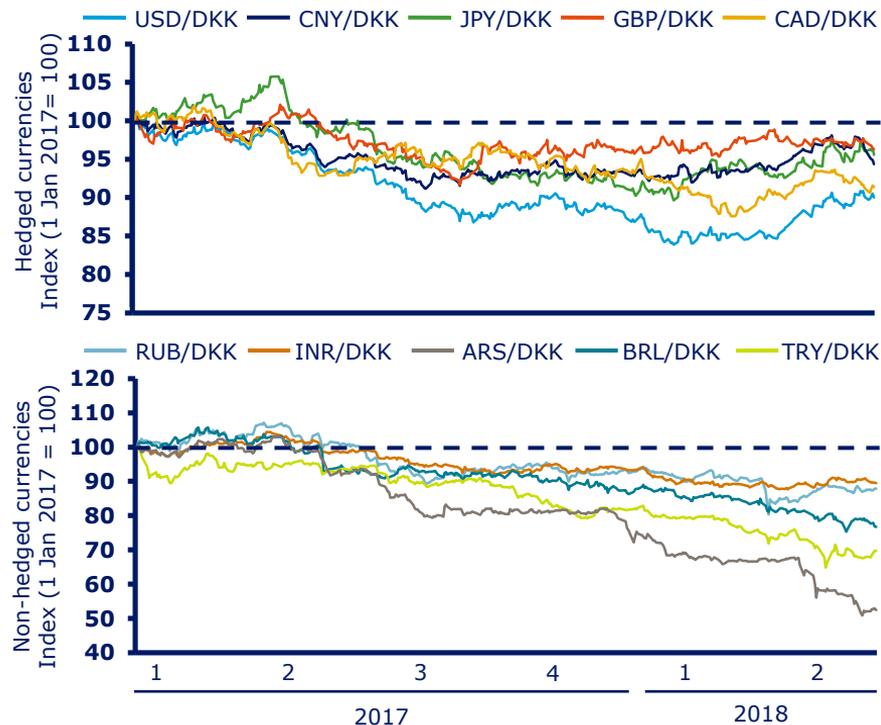
² Supplemental applications to include the two SWITCH trials have been withdrawn based on interactions with FDA

GHD: Growth hormone deficiency; AGHD: Adult growth hormone deficiency

Financial results – First six months of 2018

DKK million	H1 2018	H1 2017	Change (reported DKK)	Change (local currency)
Sales	54,337	57,090	(5%)	4%
Gross profit	45,788	48,430	(5%)	
<i>Gross margin</i>	84.3%	84.8%		
Sales and distribution costs	13,541	13,548	0%	8%
<i>Percentage of sales</i>	24.9%	23.7%		
Research and development costs	6,617	6,703	(1%)	2%
<i>Percentage of sales</i>	12.2%	11.7%		
Administration costs	1,715	1,770	(3%)	2%
<i>Percentage of sales</i>	3.2%	3.1%		
Other operating income, net	737	467	58%	
Operating profit	24,652	26,876	(8%)	4%
<i>Operating margin</i>	45.4%	47.1%		
Financial items (net)	1,455	(1,229)		
Profit before income tax	26,107	25,647	2%	
Income taxes	5,013	5,540	(10%)	
<i>Effective tax rate</i>	19.2%	21.6%		
Net profit	21,094	20,107	5%	
Diluted earnings per share (DKK)	8.66	8,07	7%	

Unfavourable currency impact in H1 2018 driven by development in both hedged and unhedged currencies



Hedged Currencies	2017 average	2018 average ²	Spot rate ²	Impact of a 5% move ³	Hedging (months)
USD ¹	660	619	642	2,000	11
CNY ¹	98	96	94	330	6 ⁴
JPY ¹	5.9	5.7	5.8	180	12
GBP ¹	849	845	837	95	11
CAD ¹	508	483	492	80	10

Non-hedged Currencies	2017 average	2018 average ²	Spot rate ²
ARS ¹	0.4	0.3	0.2
TRY ¹	181	148	127
INR ¹	10.1	9.4	9.3
RUB ¹	11.3	10.3	10.1
BRL ¹	207	178	170

¹ DKK per 100; ² As of 2 August 2018; ³ Impact on operating profit in the next 12 months of a 5% immediate currency move. 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 +50 million

Financial outlook for 2018

	Expectations 8 Aug 2018	Previous expectations 2 May 2018
Sales growth - local currencies	3% to 5%	3% to 5%
Sales growth - reported	Around 5 percentage points lower	Around 6 percentage point lower
Operating profit growth - local currencies	2% to 5%	2% to 5%
Operating profit growth - reported	Around 7 percentage points lower	Around 9 percentage point lower
Financial items (net)	Gain of around DKK 0.9 billion	Gain of around DKK 1.9 billion
Effective tax rate	19% to 20%	20% to 22%
Capital expenditure	Around DKK 9.5 billion	Around DKK 9.5 billion
Depreciation, amortisation and impairment losses	Around DKK 3 billion	Around DKK 3 billion
Free cash flow	Around DKK 27 to 32 billion	Around DKK 27 to 32 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 2 August 2018

Closing remarks

Solid leadership positions and continued market opportunities

- 27%** Novo Nordisk value market share in diabetes care and solid leadership position
- ~3%** insulin market volume growth
- 46%** Novo Nordisk insulin volume market share with leadership position across all regions
- 24%** GLP-1 volume market growth
- 47%** Novo Nordisk GLP-1 value market share with global leadership position
- 40%** Saxenda® value market share with a global leadership in the anti obesity market

Pipeline and product portfolio

- **Leading insulin portfolio across long-acting, short-acting and premix segments**
- **Best in class GLP-1 offering with Victoza® and Ozempic® and innovative oral GLP-1 in phase 3**
- **Market leader in weight management with Saxenda® and multiple clinical obesity development projects including injectable once weekly semaglutide**
- **Solid pipeline in Biopharm with somapacitan in growth hormone deficiency and multiple clinical development projects in haemophilia**

Source: IQVIA MAT May 2018 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

01 Nov 2018 Financial statement for the first nine months of 2018
01 Feb 2019 Financial statement for 2018

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Appendix

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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 research and development pipeline
- High barriers to entry in biologics
- Operating profit growth targeting 5% yearly on average (measured in local currencies)
- Earnings conversion to cash targeting 90%
- Cash generated returned to shareholders

Global insulin market leadership

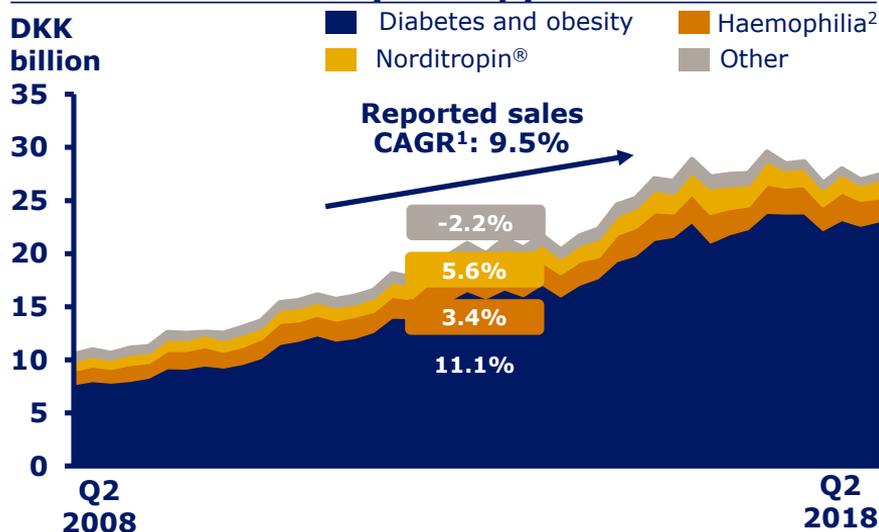
Global insulin market share: 46%



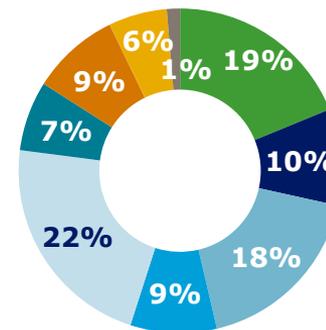
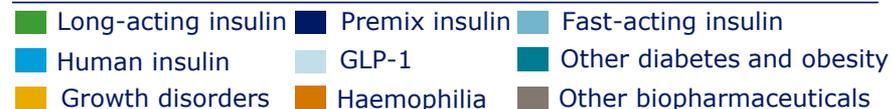
Source: IQVIA MAT May 2018 volume figures
AAMEO: Africa, Asia, Middle East & Oceania

Sales growth driven by the diabetes franchise

Novo Nordisk reported quarterly sales by therapy



Reported sales split by product segments for first six months of 2018

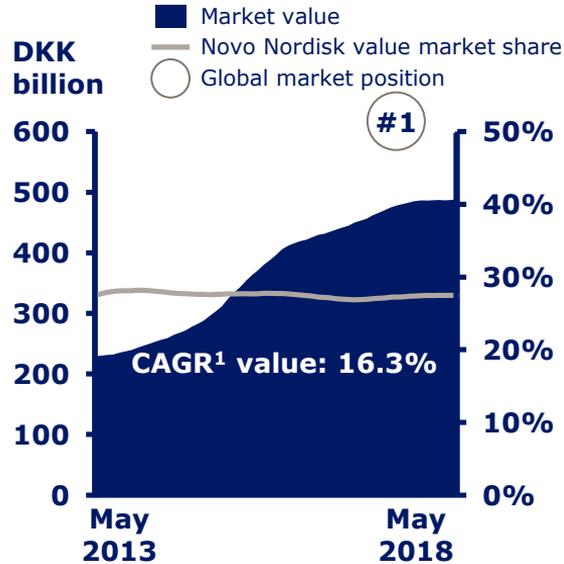


¹ CAGR for 10-year period

² Haemophilia comprises NovoSeven®, NovoThirteen®, NovoEight® and Refixia®

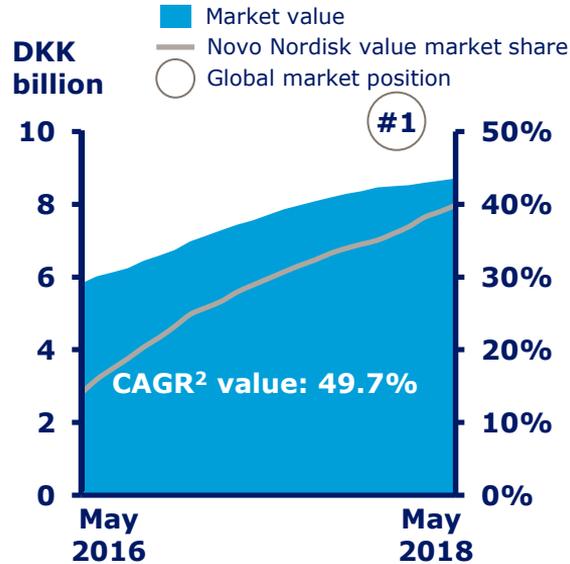
Novo Nordisk has leading positions in diabetes, obesity and haemophilia

Diabetes



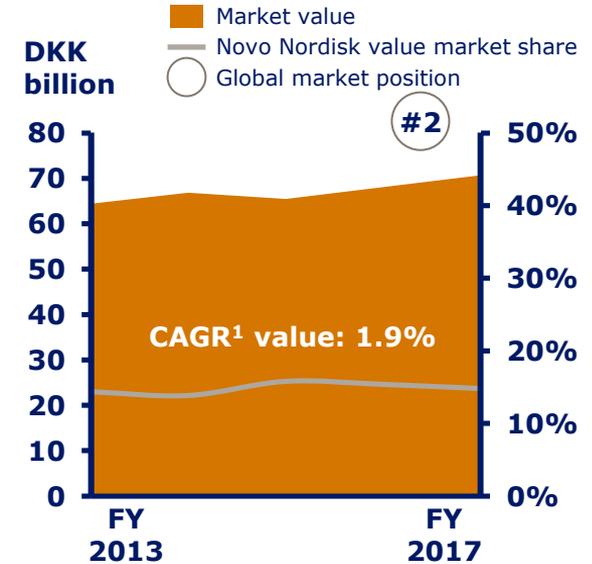
¹ CAGR for 5-year period
 Source: IQVIA MAT May, 2018 value figures

Obesity



Note: Value data is based on Australia, Belgium, Brazil, Canada, Chile, Denmark, Germany, Italy, Mexico, Russia, Spain, UAE, USA
² CAGR for 2-year period
 Source: IQVIA MAT May, 2018 value figures

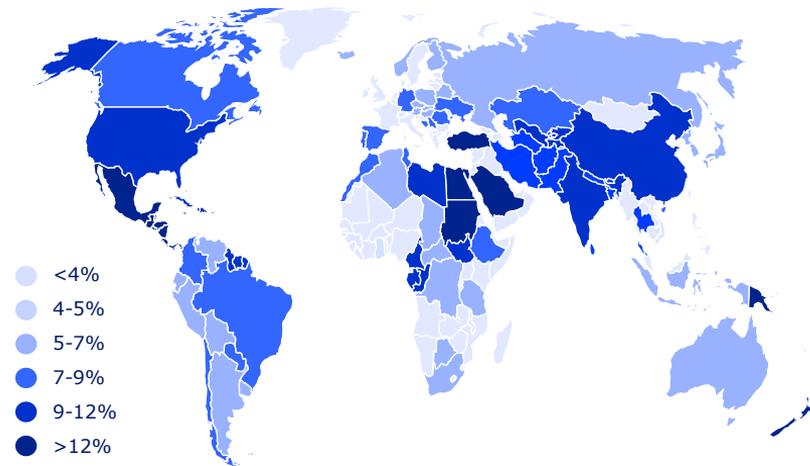
Haemophilia



Note: Annual sales figures for Haemophilia A, B and Bypassing agents segment. Recombinant and plasma derived products
 Source: Company reports

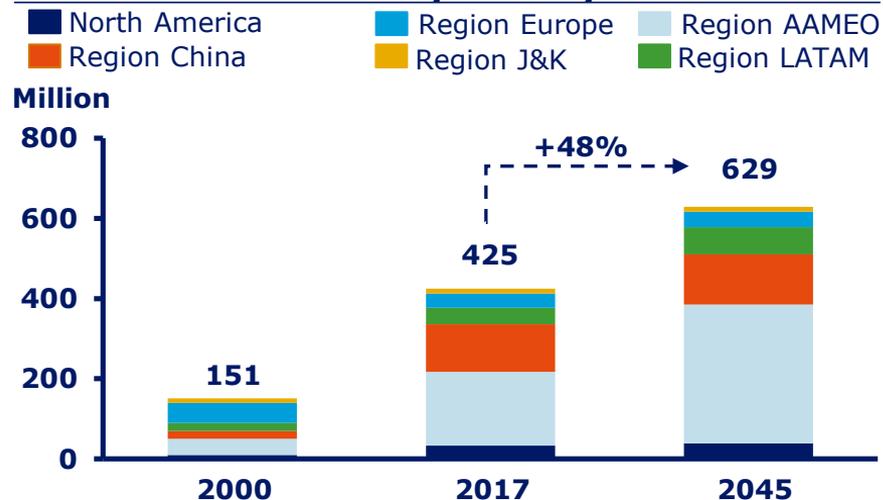
Global diabetes prevalence is increasing and 629 million people are expected to have diabetes by 2045

Around 10% of all adults globally have diabetes



Source: Adapted from International Diabetes Federation: Diabetes Atlas 8th Edition 2017

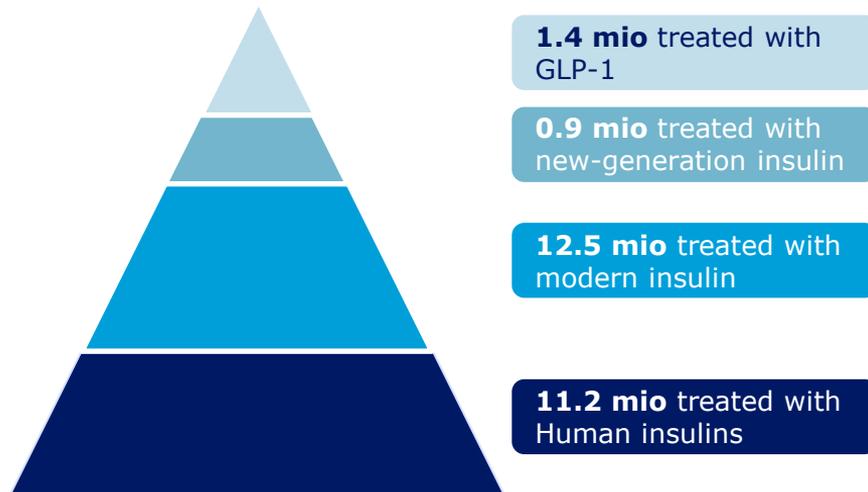
The number of people with diabetes is expected to increase by 48% by 2045



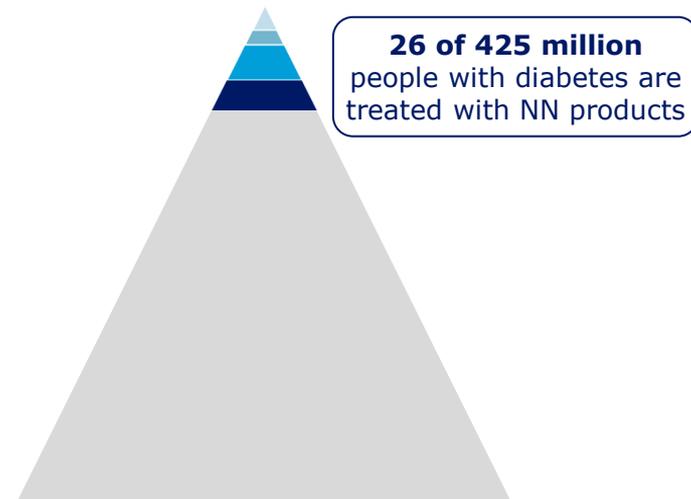
J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
Source: International Diabetes Federation: Diabetes Atlas 1th Edition 2000 and Diabetes Atlas 8th Edition 2017

Focus on driving global insulin growth by increasing the number of people benefitting from Novo Nordisk products

Around 26 million people are currently treated with Novo Nordisk insulin and GLP-1 products



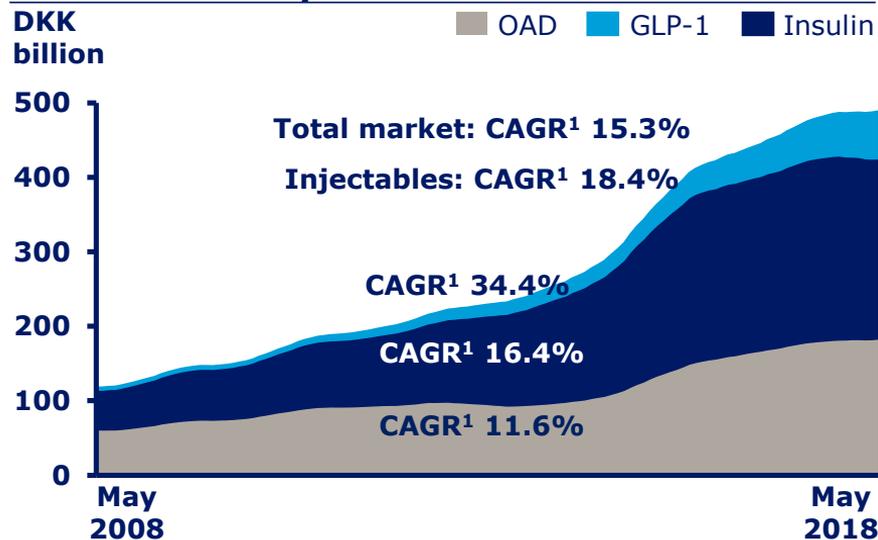
Only 6% of all people with diabetes are treated with Novo Nordisk products



NN: Novo Nordisk
Source: International Diabetes Federation: Diabetes Atlas 8th Edition 2017

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

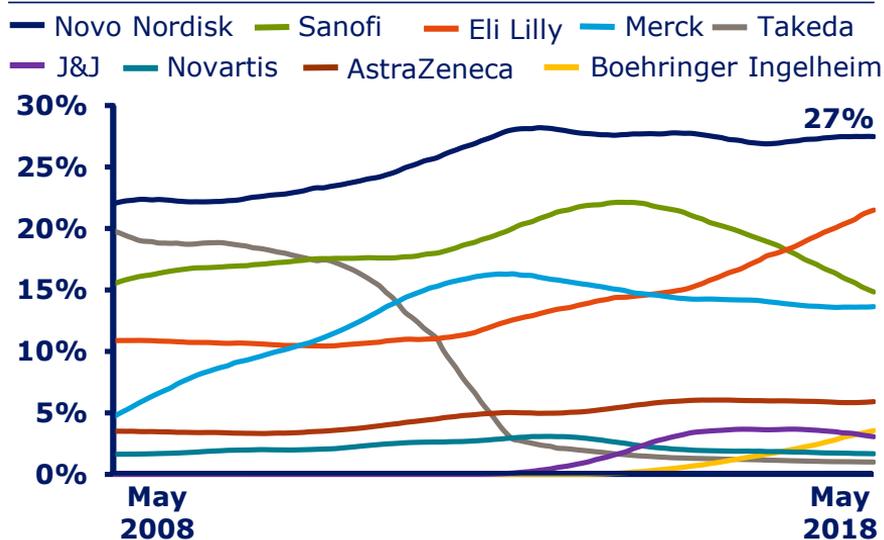
Global diabetes care market by treatment class



¹ CAGR for 10-year period
 OAD: Oral Anti-diabetic
 Source: IQVIA MAT May, 2018 value figures

changing
diabetes®

Global diabetes care value market share



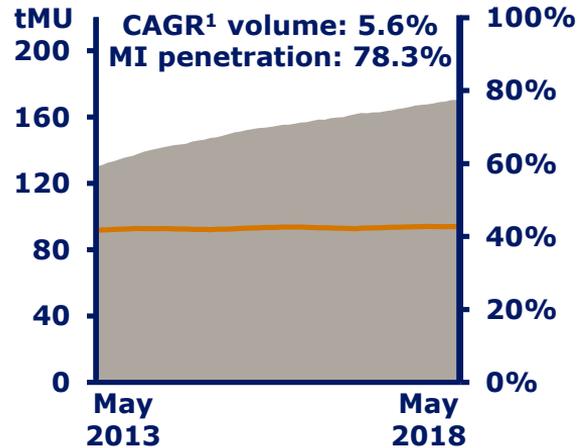
Source: IQVIA MAT May, 2018 value figures



Continued single digit volume growth within the insulin segments globally

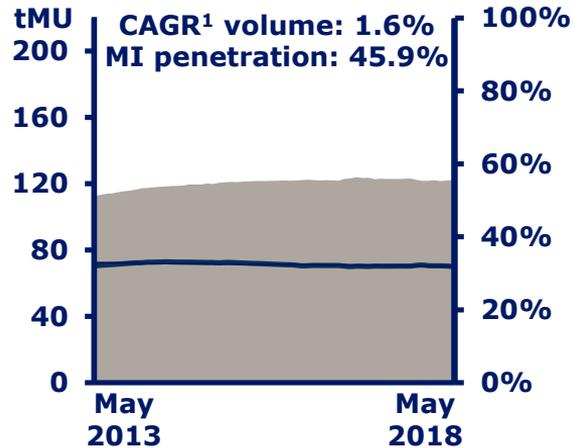
Fast-acting insulin

■ Segment volume
— NovoRapid® market share



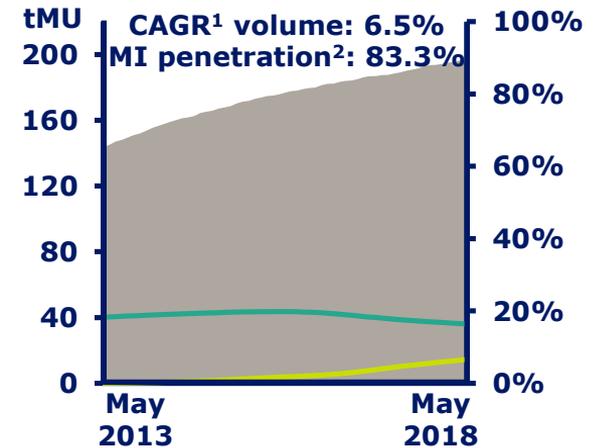
Premix insulin

■ Segment volume
— NovoMix® market share



Long-acting insulin

■ Segment volume
— Levemir® share
— Tresiba® share



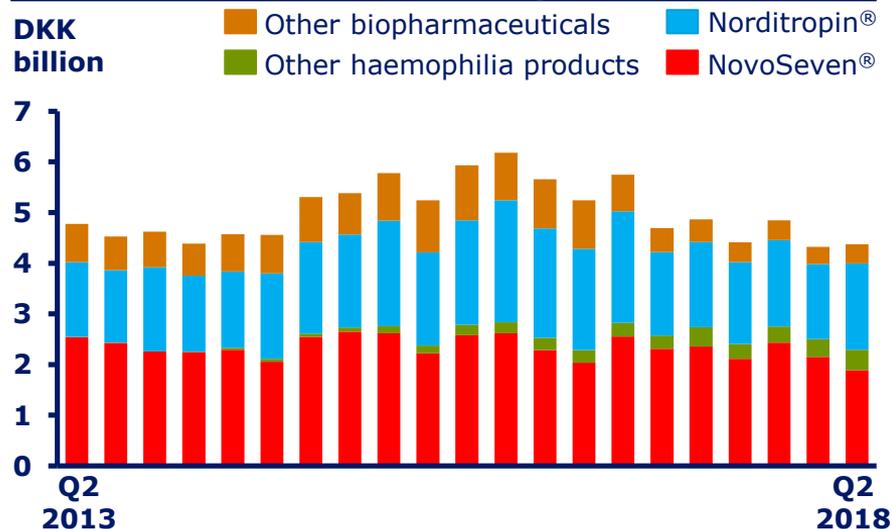
¹ CAGR for 5-year period. ² Includes new-generation insulin. tMU: Thousand mega units

Note: Modern insulin (MI) penetration is of total segment, ie including animal and human insulin; Data is sensitive to changes in IQVIA data collection and reporting methodology

Source: IQVIA MAT May, 2018 volume figures

Biopharm constitutes 16% of Novo Nordisk sales and a strategy has been defined to return to growth

NovoSeven® and Norditropin® account for 82% of Biopharm sales¹



'Return to Growth' strategy builds on organic, non-organic and organisational initiatives

Return to growth in Biopharm



Drive in-market brands beyond current plans and ensure successful pipeline launches



Pursue licensing or acquisition of complementary assets or companies



Strengthen the organisation to drive the Biopharm return to growth agenda

¹ Reported sales for the first six months of 2018

Novo Nordisk R&D strategy and priorities

STRATEGIC PRIORITIES

Strengthen leadership in
DIABETES CARE

Strengthen leadership in
OBESITY CARE

Pursue leadership in
HAEMOPHILIA

Strengthen leadership in
GROWTH DISORDERS

Expand into other
SERIOUS CHRONIC DISEASES

R&D PRIORITIES



- Develop disruptive insulin and GLP-1 based products with distinct clinical and/or delivery advantages
- Develop novel mechanisms that reverse the course of diabetes, act as insulin sensitisers and improve hard clinical endpoints



- Develop new biologics combined with GLP-1 to achieve >15% weight loss



- Pursue subcutaneous delivery of long-acting coagulation factors and bypassing agents



- Bring once-weekly growth hormone to market and expand indications



- Enter NASH, CVD and CKD by leveraging GLP-1 and other internal assets as well as licensing external opportunities

**Innovate to
improve
patient
outcomes and
drive growth**

CKD: Chronic kidney disease; CVD: Cardiovascular disease; NASH: Non-alcoholic steatohepatitis

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

PHASE 1

NN1436 – LAI287

NN9513 – HypoPen 1513

NN9838 – Amylin analogue

NN9747 – PYY analogue

NN9277 – GG-co-agonist

NN9423 – Tri-agonist 1706

NN7170 – Sc N8-GP

PHASE 2

Anti-IL-21 and liraglutide

Concizumab

Somapacitan – QW GHD¹

Semaglutide NASH

PHASE 3

Oral semaglutide

Semaglutide obesity

Somapacitan – QW AGHD²

SUBMITTED

N8-GP – Long-acting rFVIII

APPROVED

Levemir®

NovoRapid®

NovoMix®

Tresiba®

Ryzodeg®

Xultophy®

Victoza®

Fiasp®

Ozempic®

Saxenda®

NovoSeven®

NovoEight®

NovoThirteen®

Rebinynd®/Refixia®³

Norditropin®

■ Diabetes
 ■ Obesity
 ■ Haemophilia
 ■ Growth disorders
 ■ Other serious chronic diseases

¹ Study conducted in growth hormone disorder ² Study conducted in adult growth hormone disorder ³ Rebinynd® is the brand name in the US and Refixia® in the EU
 QW: Once-weekly; GG: Glucagon GLP-1; Sc: Subcutaneous; QD: Once daily

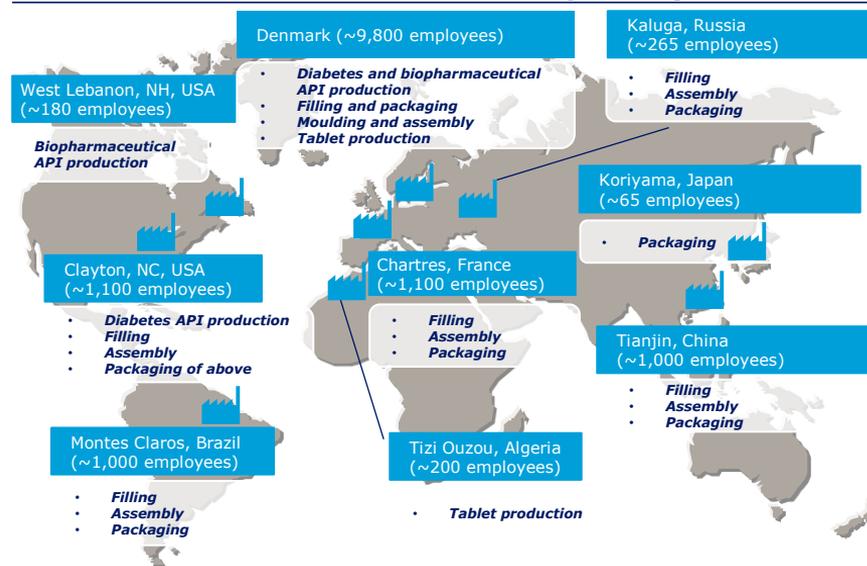
Growth opportunities supported by strong global presence in both sales and manufacturing

Employees in sales regions¹

North America Operations:	~4,800
Region Africa, Asia, Middle-East and Oceania (AAMEO):	~4,700
Region China:	~3,200
Region Europe:	~2,900
Region Japan & Korea:	~1,200
Region Latin America:	~940

Total non-HQ/manufacturing employees: ~18,700¹

Global manufacturing setup



¹ Employees represent full-time equivalents in Novo Nordisk's sales regions (excludes all other employees in headquarter, research sites and manufacturing sites) as of June 2018

Solid patent protection of innovative drugs

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

	EU patent protection ¹	US patent protection ¹
OZEMPIC semaglutide injection	2031	2032
Fiasp fast-acting insulin aspart	2030	2030
Xultophy insulin degludec/liraglutide U100 combination injection	2028 ²	2029 ²
TRESIBA insulin degludec/GMA origin injection	2028	2029
RYZODEG 30% insulin degludec and 70% insulin aspart U100 combination injection	2028	2029
VICTOZA	2022 ³	2022 ³
Levemir [®] (insulin detemir)	2019	2019
NovoMix [®] (biphasic insulin aspart)	Expired ⁴	Expired ⁵
NovoRapid [®] (insulin aspart)	Expired ⁶	Expired ⁷
norditropin [®]	Expired ⁸	Expired ⁸

¹ List does not include all marketed products. ² Protected by patents on the individual compounds insulin degludec and liraglutide as listed. ³Excluding 6 months paediatric extension ⁴Expired in 2015. ⁵Expired in 2014. ⁶Expired in 2011. ⁷Expired in 2014. ⁸ Expired in 2017

Note: Saxenda patent identical to the Victoza[®] patent.

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

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

Insulin



TONGYUAN LIU
China
Tongyuan Liu has type 2 diabetes

1. Diabetes at a glance 34
2. Diabetes treatment classes 37
3. Branded diabetes market 38
4. Diabetes market segments 39
4. Novo Nordisk Diabetes product portfolio 41
5. Insulin market growth and market share 43
6. Tresiba® 57-58

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 produced by the pancreas

Primary classifications:

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

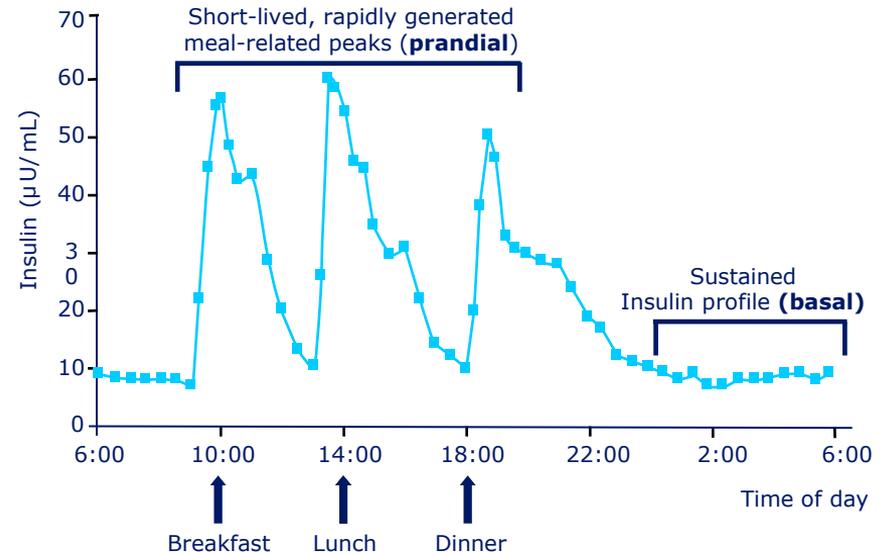
Type 2 diabetes: Characterised by some degree of insulin resistance and insulin deficiency

Insulin:

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

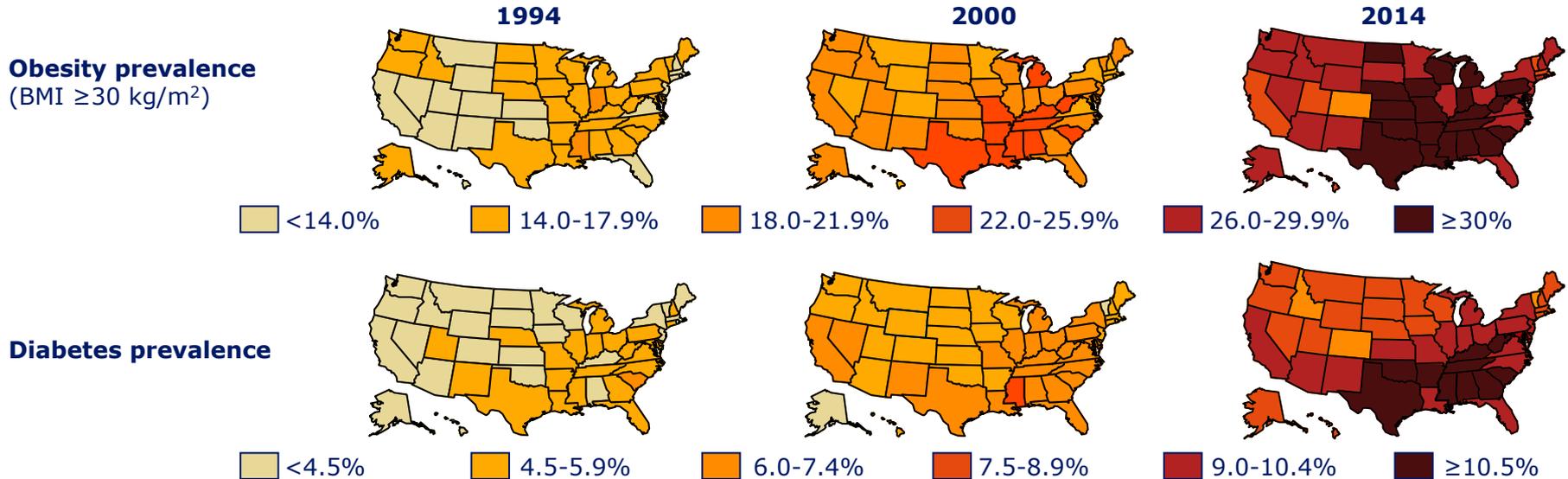


The aim of insulin therapy is to recreate normal blood insulin profile



Diabetes pandemic is fuelled by growing rates of obesity

US CDC data on obesity and diabetes prevalence among adults

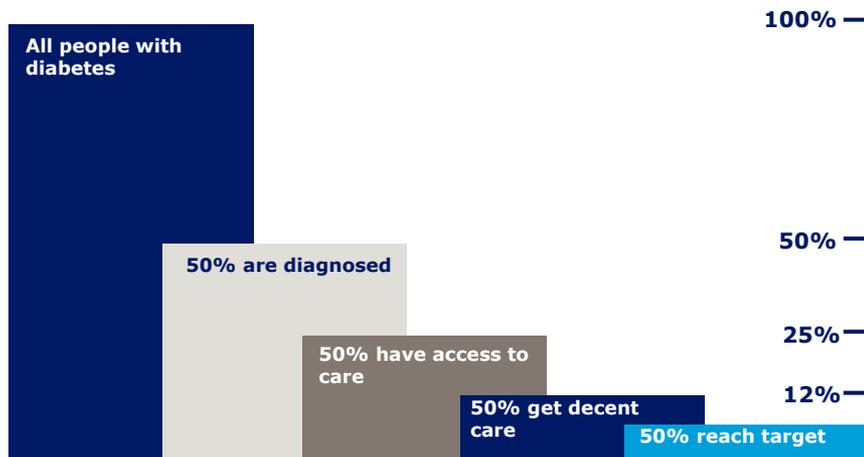


CDC: Centers for Disease Control and Prevention

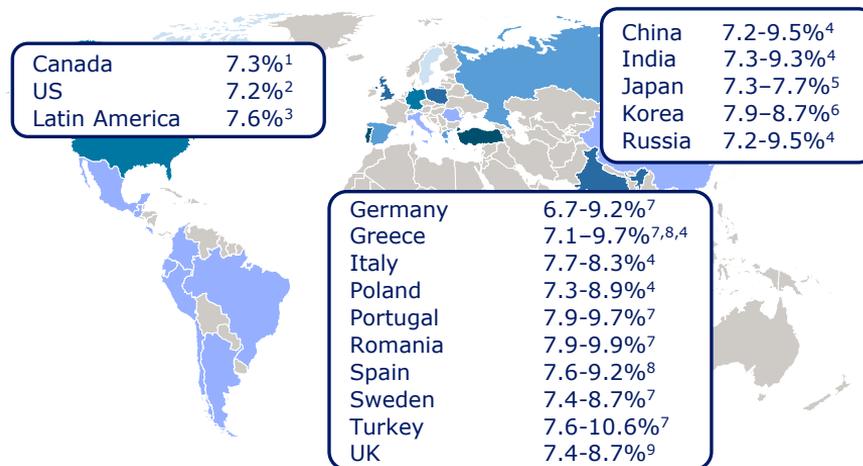
Source: CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes>

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



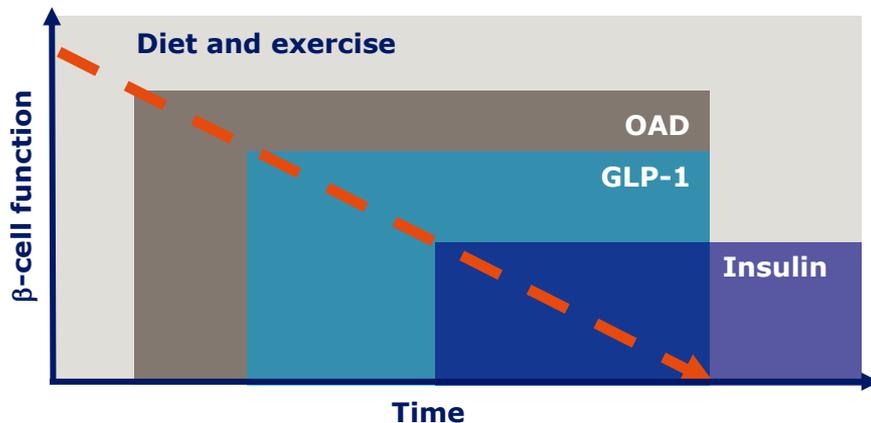
The worldwide challenge of glycaemic control: Mean HbA_{1c} in type 2 diabetes



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

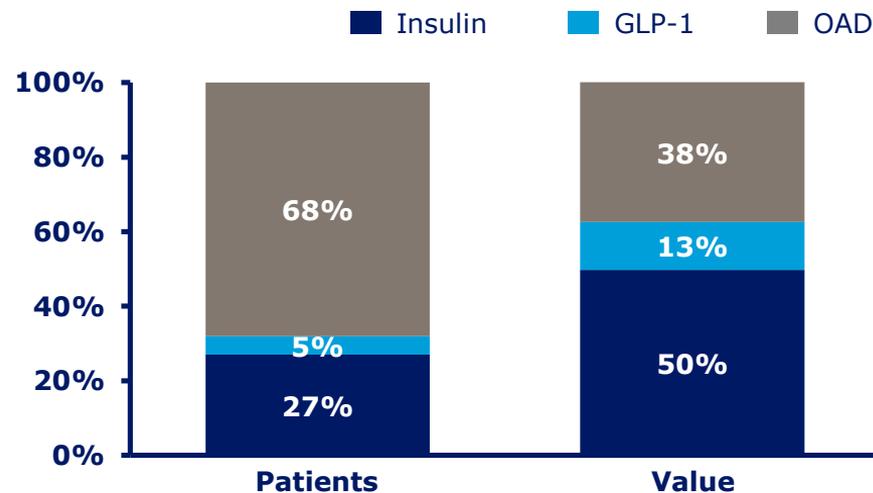
Insulin is the ultimate care for people with diabetes

Progression of type 2 diabetes and treatment intensification



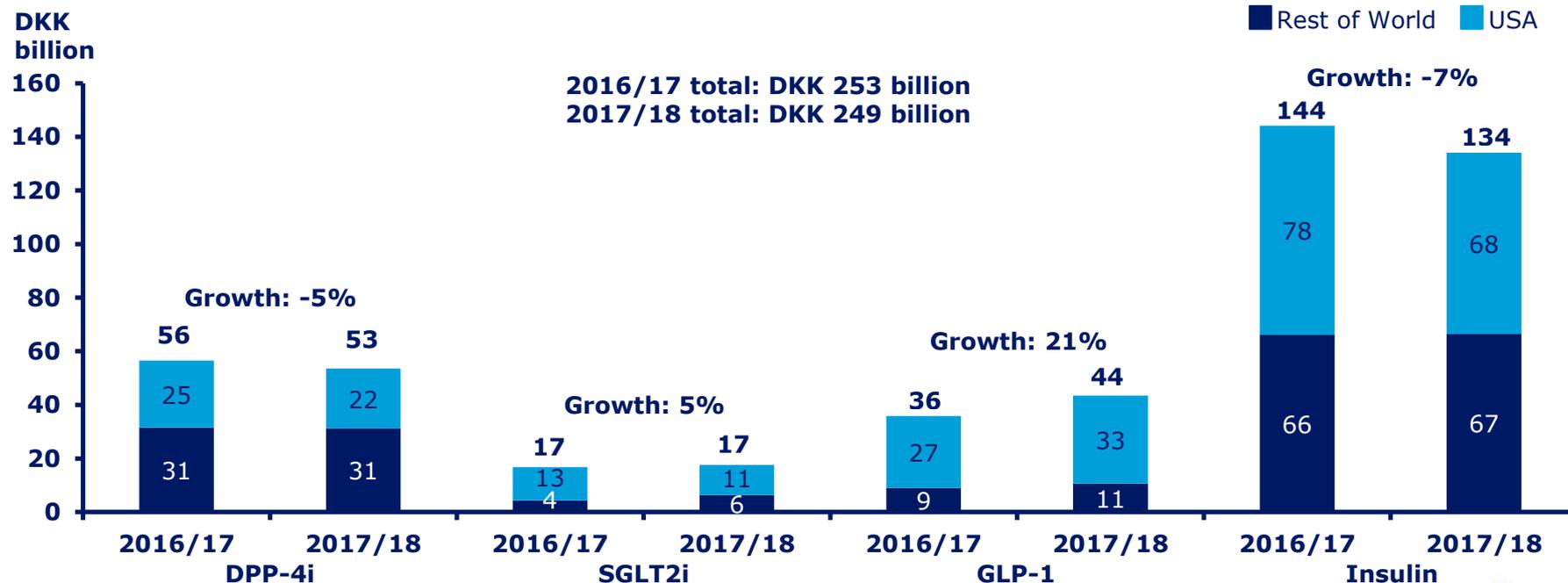
OAD: Oral anti-diabetic

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 IQVIA MAT May, 2018
Source: IQVIA PharMetrix claims data, IQVIA disease analyser, IQVIA MIDAS

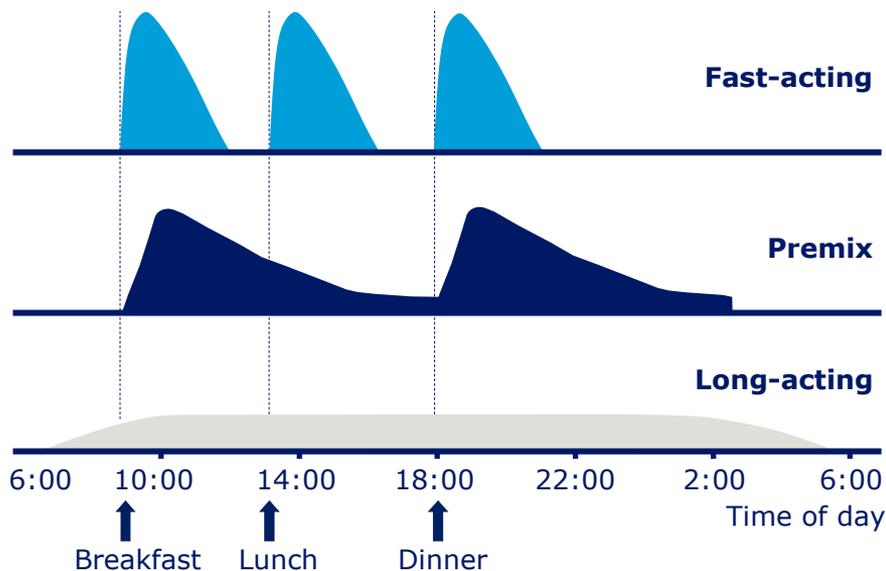
The branded diabetes market has a global value of DKK ~250 billion annual



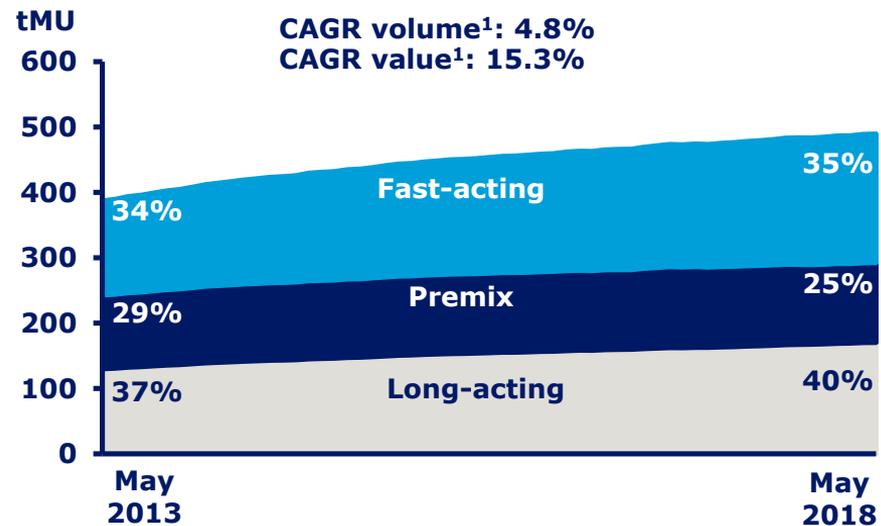
Source: Company reported sales
 2016/17: Covers the four quarters from Q2 2016 to Q1 2017
 2017/18: Covers the four quarters from Q2 2017 to Q1 2018

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
 Source: IQVIA monthly MAT volume and value May 2018 (DKK) figures

Medications used for the treatment of type 2 diabetes

Commonly prescribed product classes for the treatment of type 2 diabetes

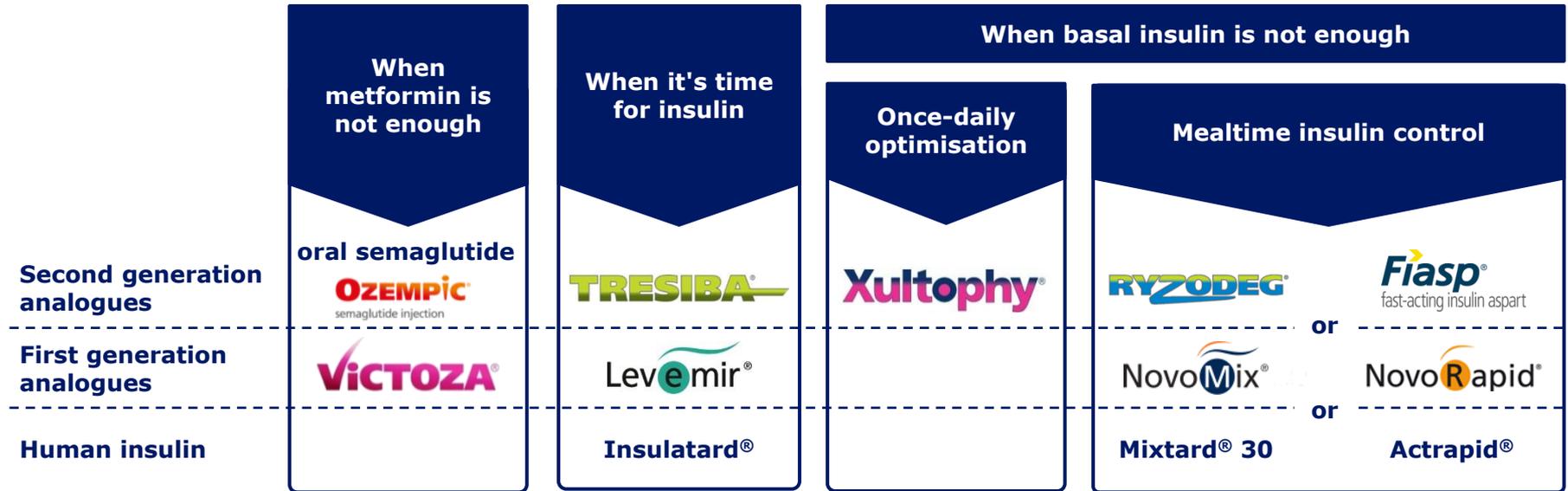
Class	HbA _{1c} change	Hypoglycaemia risk	Weight change	CVD risk	Dosing (pr. day)	Contraindication/undesired effects
Metformin	1.5	No	Neutral	Minimal	2 OADs	Kidney, liver
Sulfonylurea	1.5	Yes	Gain	None	1 OAD	Essentially none
TZDs	0.5 - 1.4	No	Gain	Varies	1 OAD	CHF, liver
DPP-IV inhibitors	0.6 - 0.8	No	Neutral	TBD	1-2 OADs	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 high-density lipoprotein 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.

Novo Nordisk current and future product portfolio covers the type 2 diabetes treatment cascade¹

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



¹ Pending clinical development programmes and regulatory processes for oral semaglutide

Novo Nordisk holds a broad insulin portfolio with three generations of products covering the treatment cascade

Novo Nordisk product portfolio includes three generations of insulin products

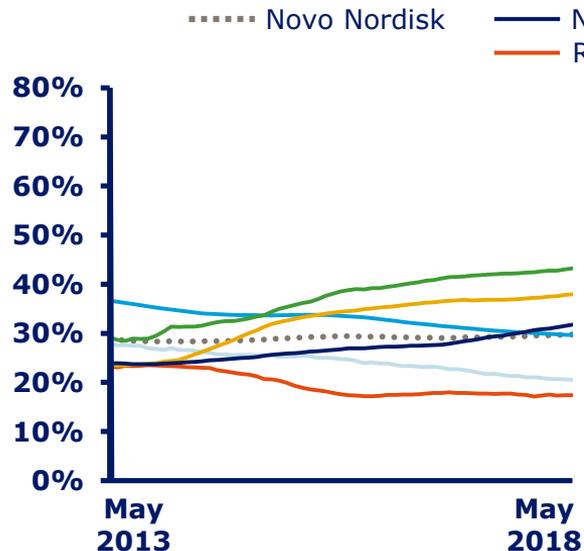
	Basal insulin	Mix insulin	GLP & basal combination	Bolus insulin
New-generation insulin	Tresiba®	Ryzodeg®	Xultophy®	Fiasp®
Modern insulin	Levemir®	NovoMix®		NovoLog®
Human insulin	Insulatard®	Mixtard®		Actrapid®

Commercial focus depends on market maturity and market access situation

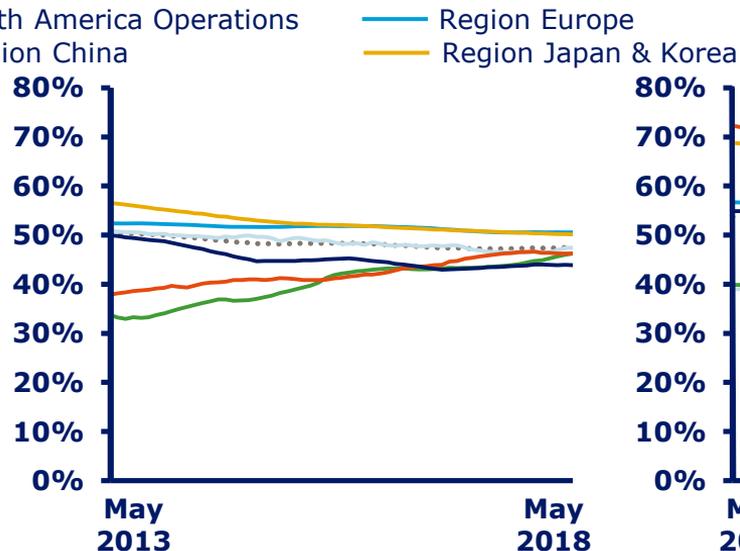
	Commercial focus	Volume strategy	Value strategy
New-generation insulin	Differentiation		
Modern insulin	Familiarity		
Human insulin	Affordability		

Novo Nordisk increased market share in long-acting insulin and sustained leadership in fast-acting and premix insulin

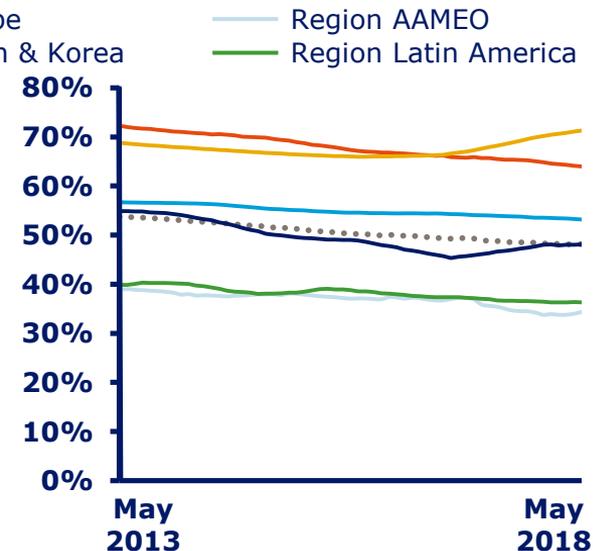
Long-acting insulin¹ volume market share across regions



Fast-acting insulin² volume market share across regions



Premix insulin³ volume market share across regions



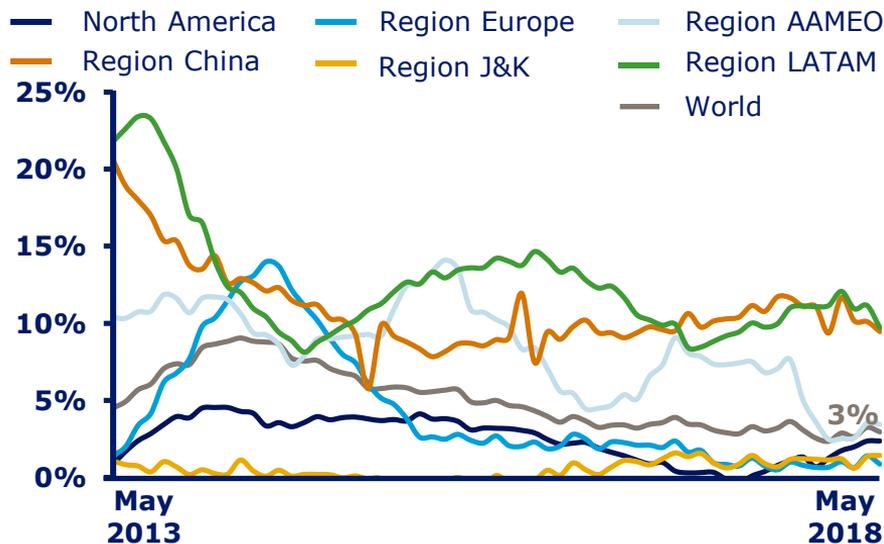
¹ Long-acting insulin comprises: Tresiba®, Levemir®, Xultophy® and Insulatard® (basal human insulin). Please note that not all products are launched in all markets

² Short-acting insulin includes: Fiasp®, NovoLog® and Actrapid® (bolus human insulin). Please note that not all products are launched in all markets

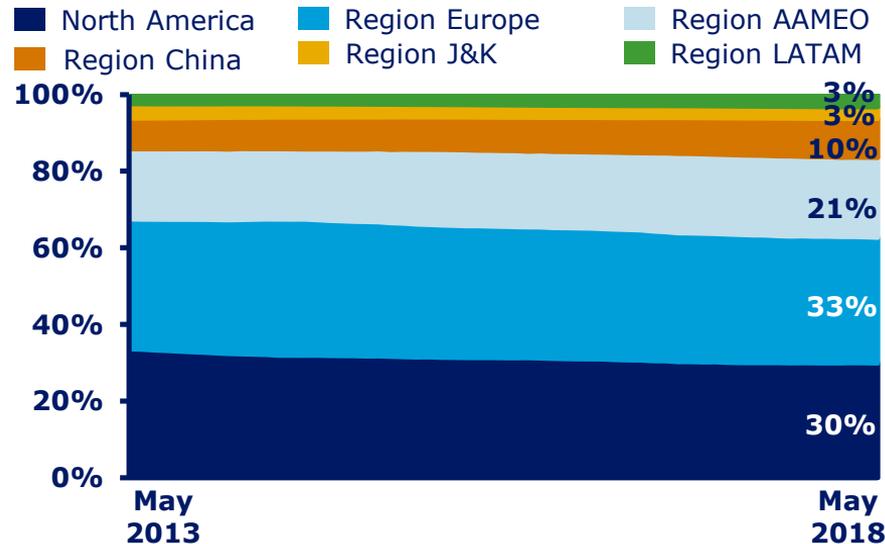
³ Premix insulin includes: Ryzodeg®, NovoMix® and Mixtard® 30 (premix human insulin). Please note that not all products are launched in all markets

Stable global insulin volume growth

Regional insulin volume growth



Regional insulin volume market split

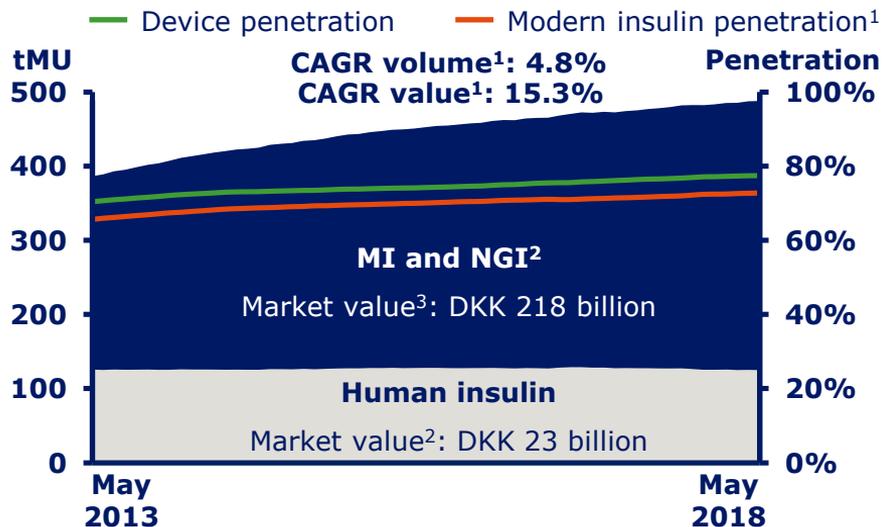


Reg: Region; J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
 Note: Data is sensitive to changes in IQVIA data collection and reporting methodology
 Source: IQVIA monthly MAT May, 2018 volume figures

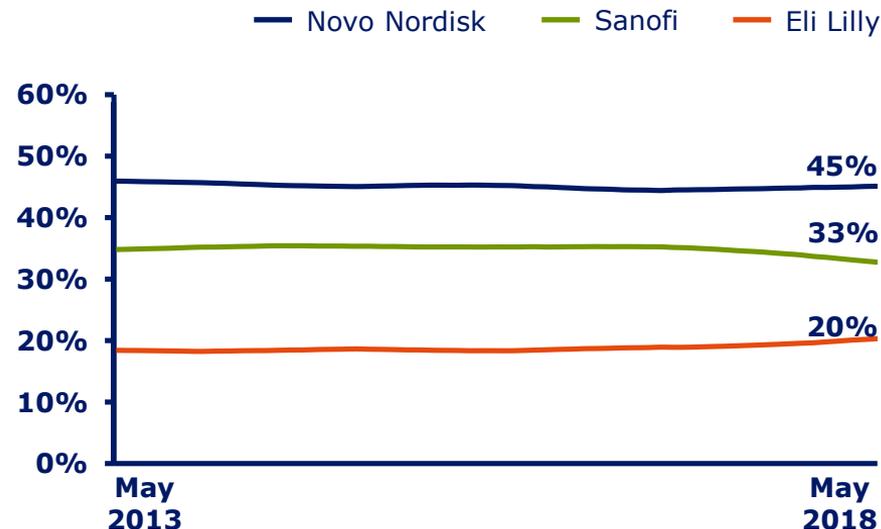
Reg: Region; J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
 Note: Data is sensitive to changes in IQVIA data collection and reporting methodology
 Source: IQVIA monthly MAT May, 2018 volume figures

Strong underlying insulin market growth and sustained global volume market share

Global insulin market



Global modern and new-generation insulin volume market shares



¹ CAGR for 5-year period; ²MI: Modern insulin. NGI: New-generation insulin

³Annual value of total insulin class

Note: Data is sensitive to changes in IQVIA data collection and reporting methodology

Source: IQVIA monthly MAT May, 2018 volume and value (DKK) figures

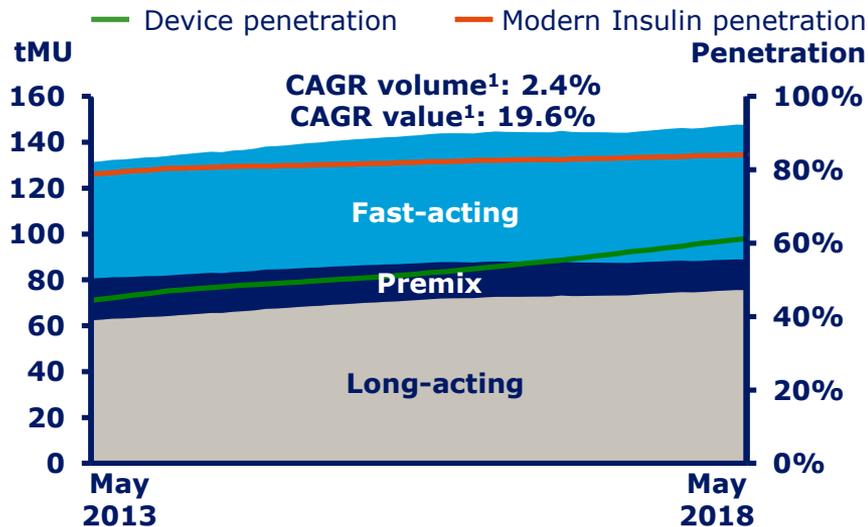
Note: Data is sensitive to changes in IQVIA data collection and reporting methodology,

does not add up to 100% as only selected pharmaceutical companies are included

Source: IQVIA monthly MAT May, 2018 volume figures

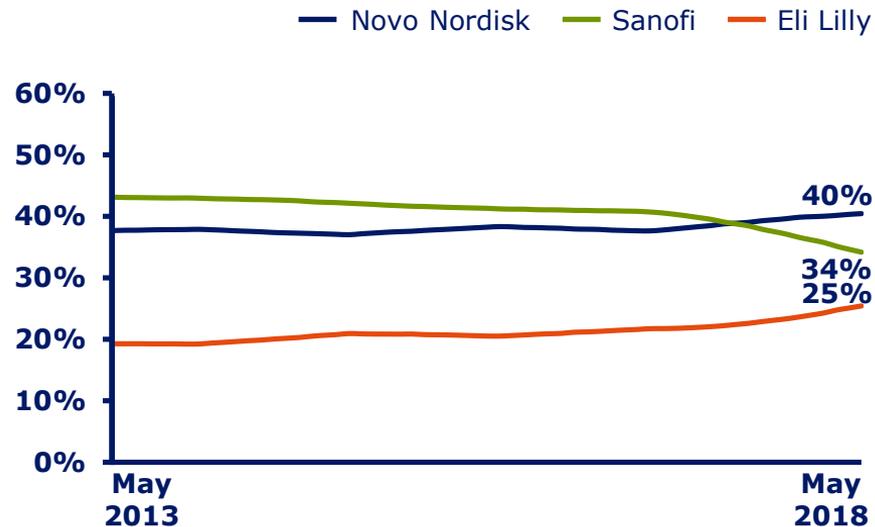
Novo Nordisk is the market leader in the USA within the modern and new-generation insulin segment

USA insulin market by segment



¹ CAGR for 5-year period
Source: IQVIA monthly MAT May, 2018 volume and value (DKK) figures

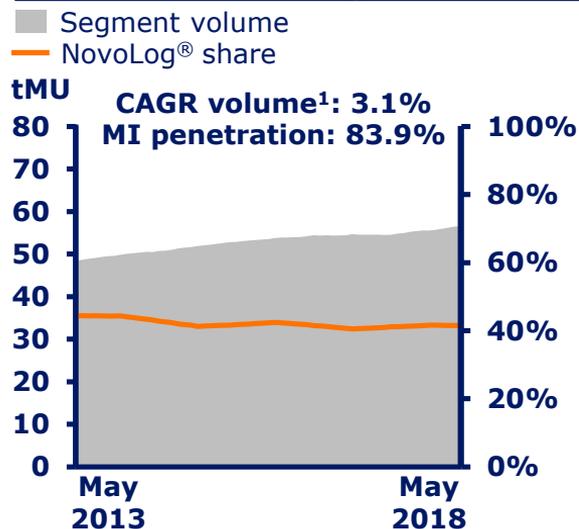
Modern insulin and new-generation insulin volume market shares in the USA



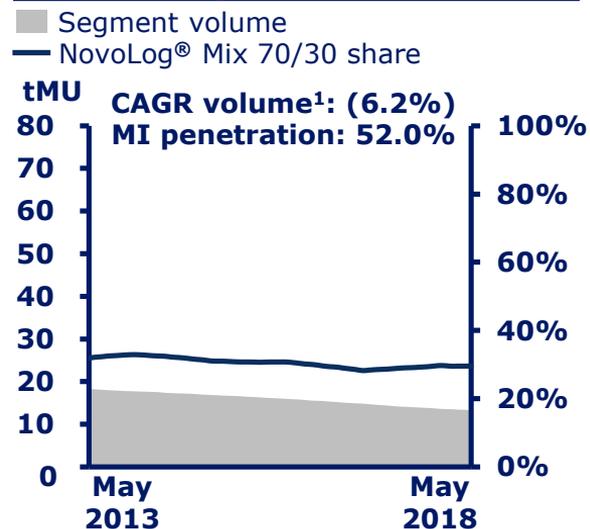
Source: IQVIA monthly MAT May, 2018 volume figures

Novo Nordisk's modern and new generation insulins have a stable market position in the USA insulin market

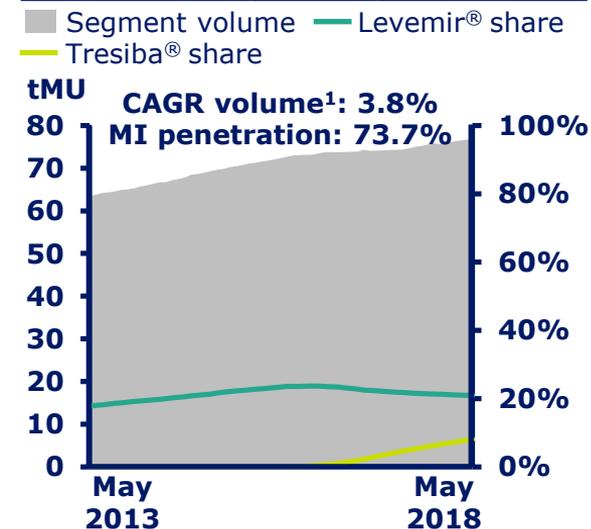
USA fast-acting insulin



USA premix insulin



USA long-acting insulin



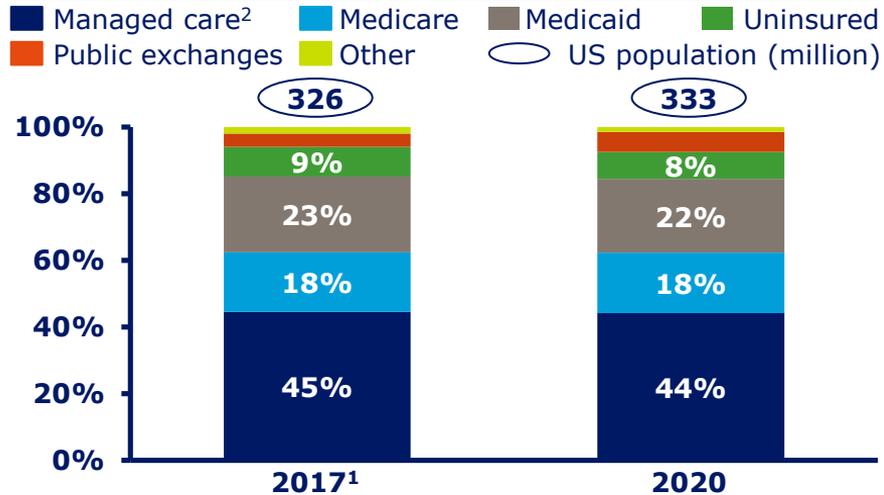
¹ CAGR for 5-year period; tMU: Thousand mega units

Note: US trend data reflect changes to IQVIA data collection coverage and methodology as of January 2012. Modern insulin (MI) penetration is of total segment, ie including human insulin

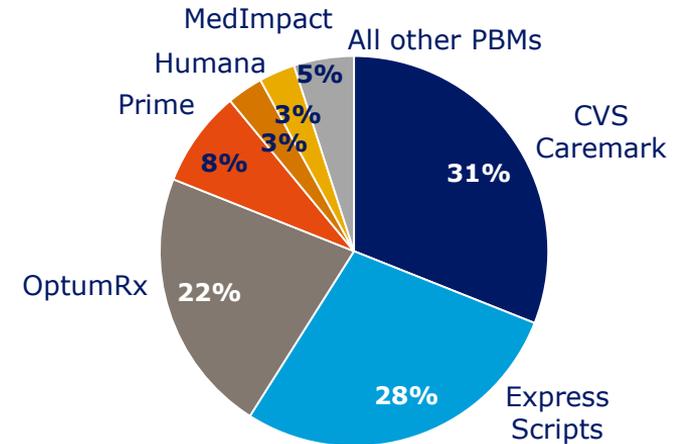
Source: IQVIA monthly MAT May, 2018 volume figures

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 2018, PBMs covered 288 million lives and the market has consolidated



¹ 2017 data reflect historical data through October 2017

² Managed care population was slightly underestimated as only population under age 65 were captured to avoid double counting with those eligible for Medicare.

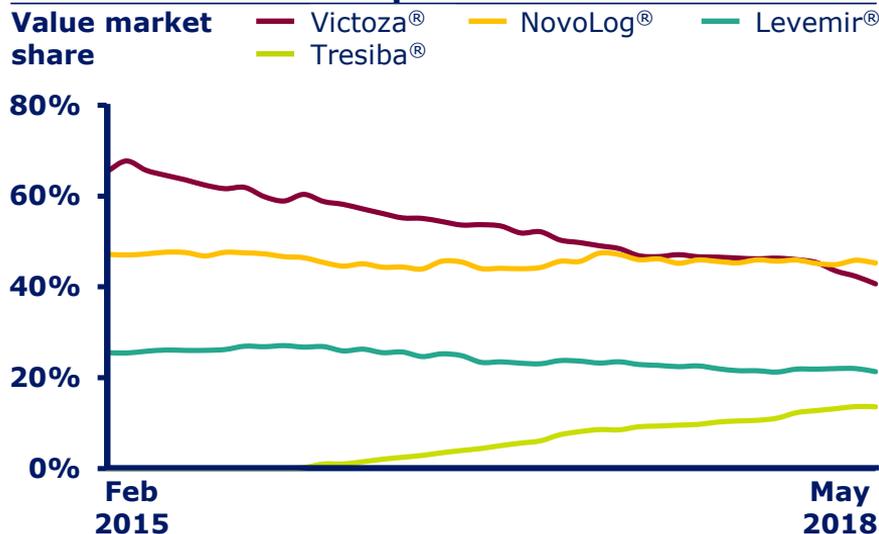
Source: Census.gov; Congressional Budget Office Health Insurance Coverage 2016-2026; Medicare Enrollment Dashboard; CMS Health Insurance Enrollment Projection 2015-2025; Medicaid and CHIP Enrollment Report Oct. 2017; CMS Insurance Marketplace Factsheet 2017; CDC.gov

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
Sources: Cleveland Research

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

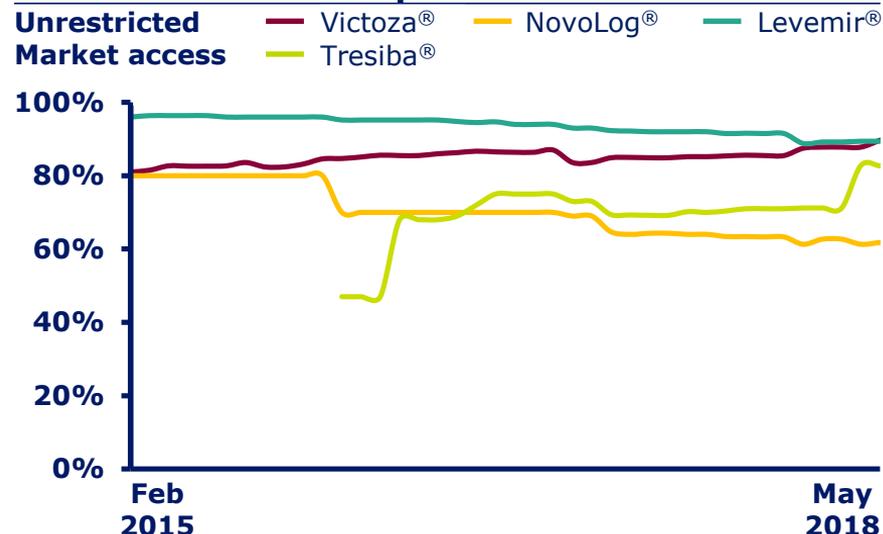
Value market shares of key Novo Nordisk products in the USA



Source: IQVIA NSP May 2018;

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

% share of unrestricted market access of key Novo Nordisk products in the USA

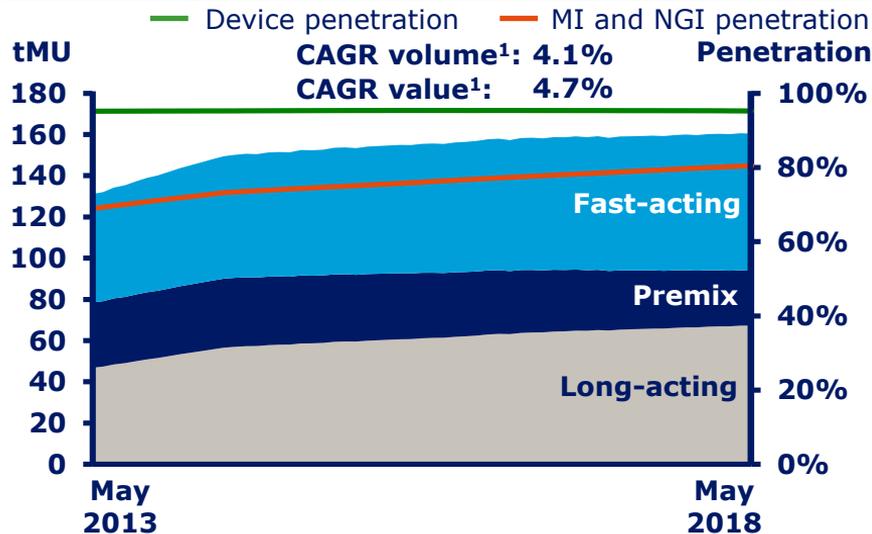


Source: FingerTip Formulary bridge, May 2018 Nomenclature and Xponent PlanTrak,; only considers bridged volume; excludes cash and mail order data;

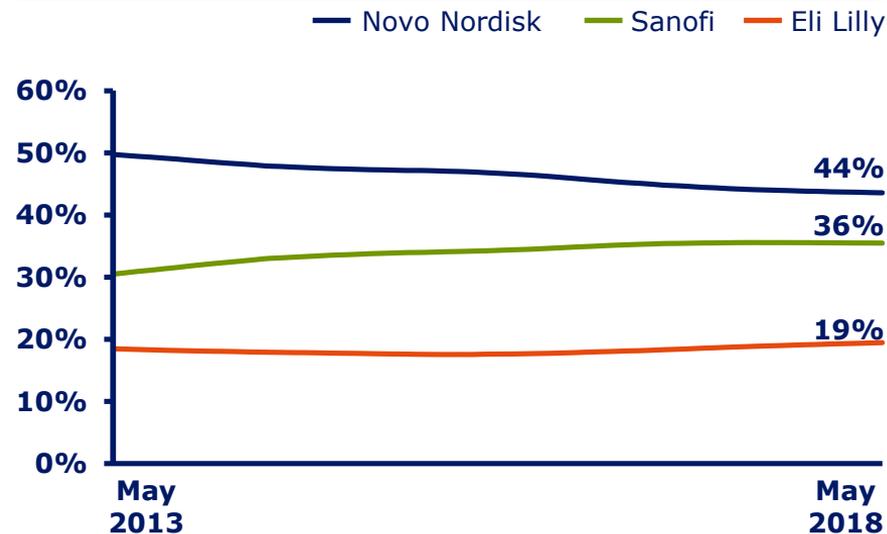
Note: Unrestricted access excludes prior authorisation, step edits and other restrictions
Levemir® access based on FlexTouch® Pen; NovoLog® access based on FlexPen®; only considers bridged volume; Tresiba® launched in January 2016

Sustained leadership position in the European modern and new-generation insulin market

European insulin market by segment



European modern insulin and new-generation insulin volume market shares



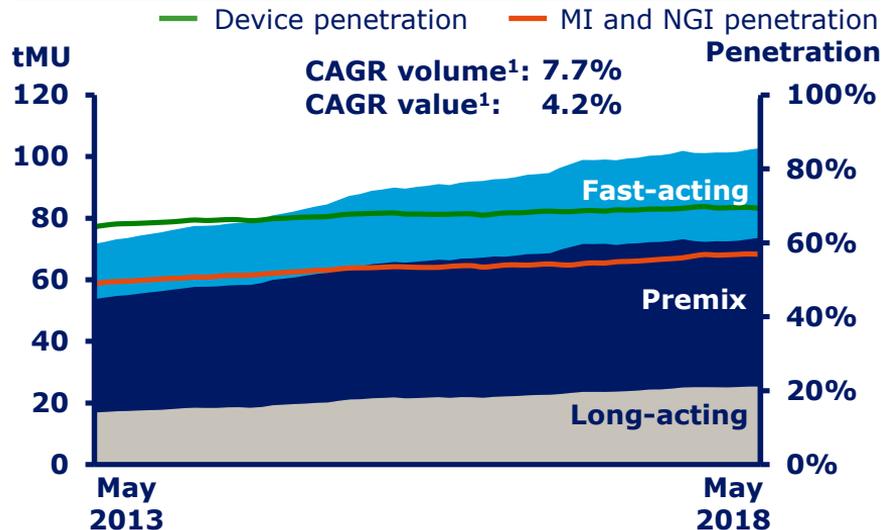
¹ CAGR for 5-year period

² MI: Modern insulin; NGI: New-generation insulin

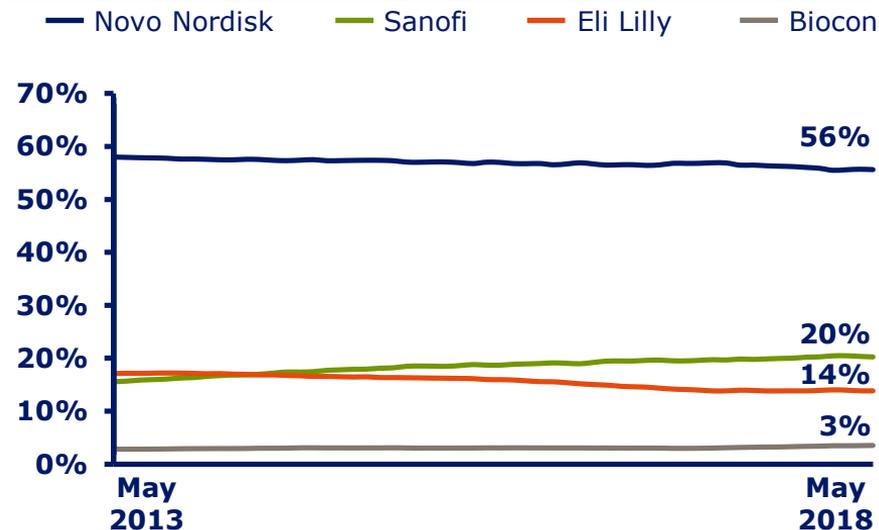
Source: IQVIA monthly MAT May, 2018 volume and value (DKK) figures

Stable insulin leadership position in Region AAMEO comprising Africa, Asia, Middle-East and Oceania

Region AAMEO insulin market by segment



Region AAMEO modern and new-generation insulin volume market shares



¹ CAGR for 5-year period.

Note: IQVIA only covers the following 8 markets in AAMEO (retail data): Algeria, Egypt, India, New Zealand, Russia, Saudi Arabia, South Africa & Turkey, which together account for 82% of Novo Nordisk insulin sales in AAMEO

Source: IQVIA monthly MAT May, 2018 volume and value (DKK) figures

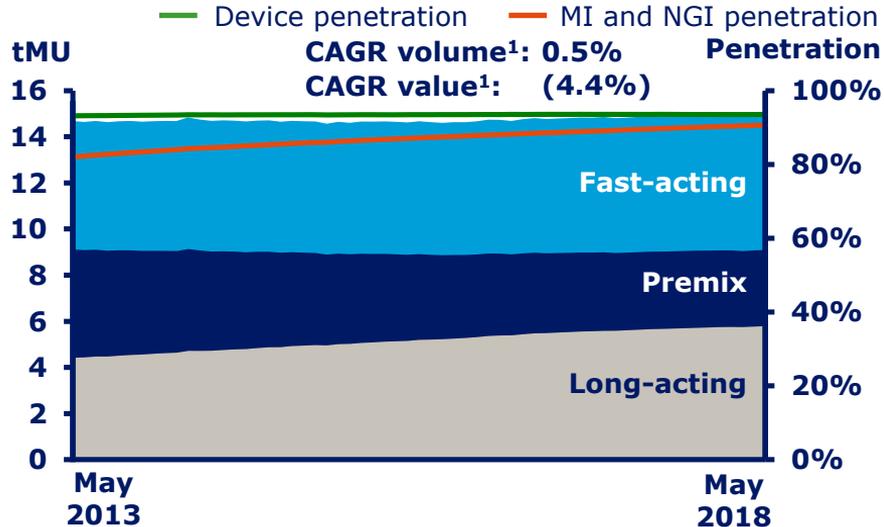
MI: Modern insulin; NGI: New-generation insulin

Source: IQVIA monthly MAT May, 2018 volume figures, numbers do not add up to 100% due to smaller insulin manufacturers



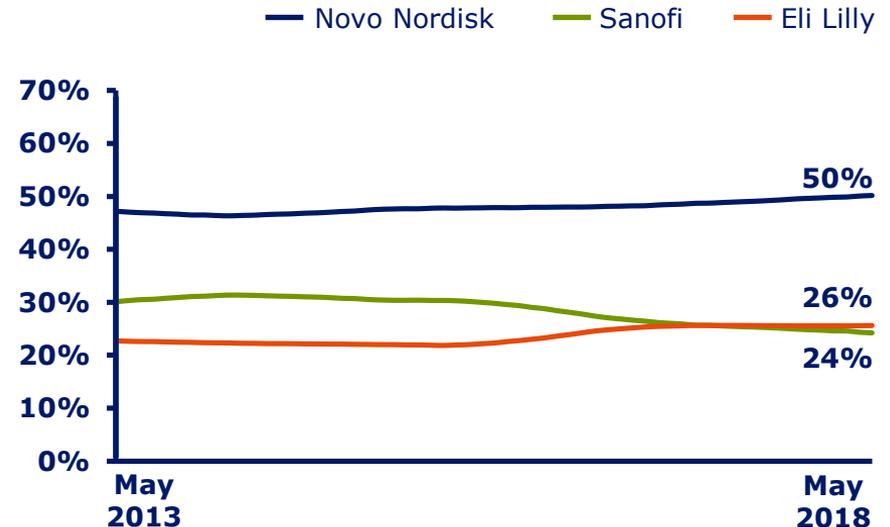
Solid insulin market leadership position in Region Japan & Korea

Japan & Korea insulin market by segment



¹ CAGR for 5-year period
 MI: Modern insulin; NGI: New-generation insulin
 Source: IQVIA monthly MAT May, 2018 volume and value (DKK) figures

Japan & Korea modern and new-generation insulin volume market shares

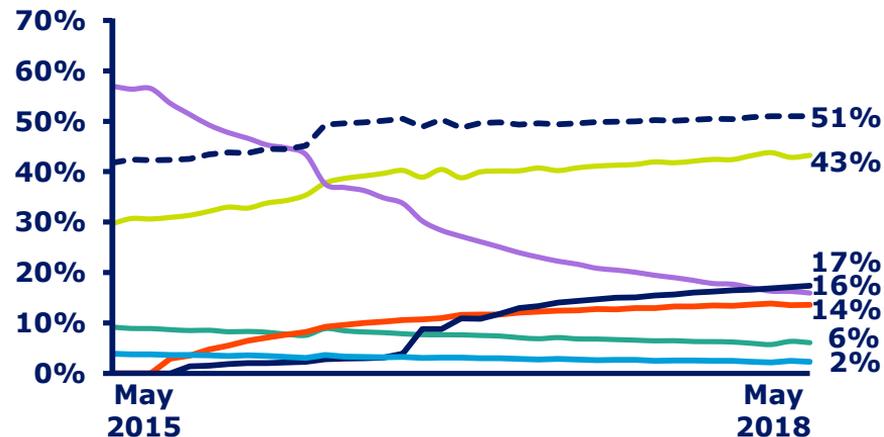


Source: IQVIA monthly MAT May, 2018 volume figures

Solid Tresiba® performance strengthens basal insulin market share in Japan

Japanese basal value market shares

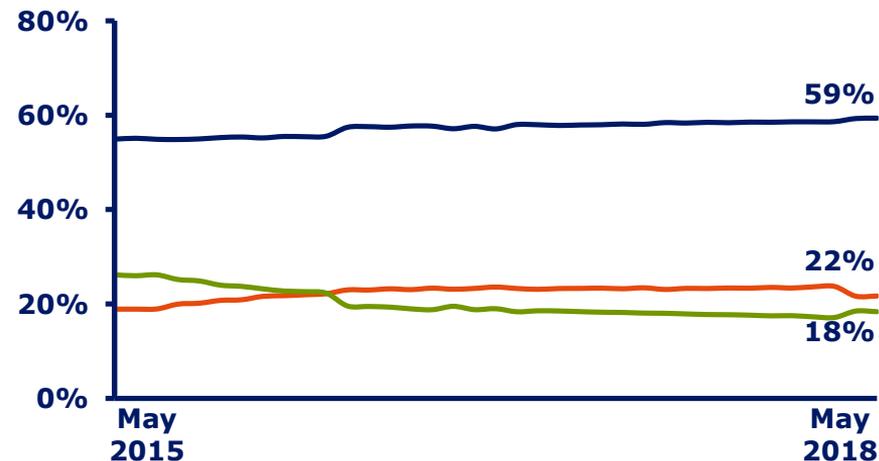
— Tresiba®
 — Levemir®
 — glargine U100
 — glargine U300
— NPH
 — biosimilar glargine U100
 - - NN Total Basal



Source: IQVIA monthly MAT May, 2018 value figures

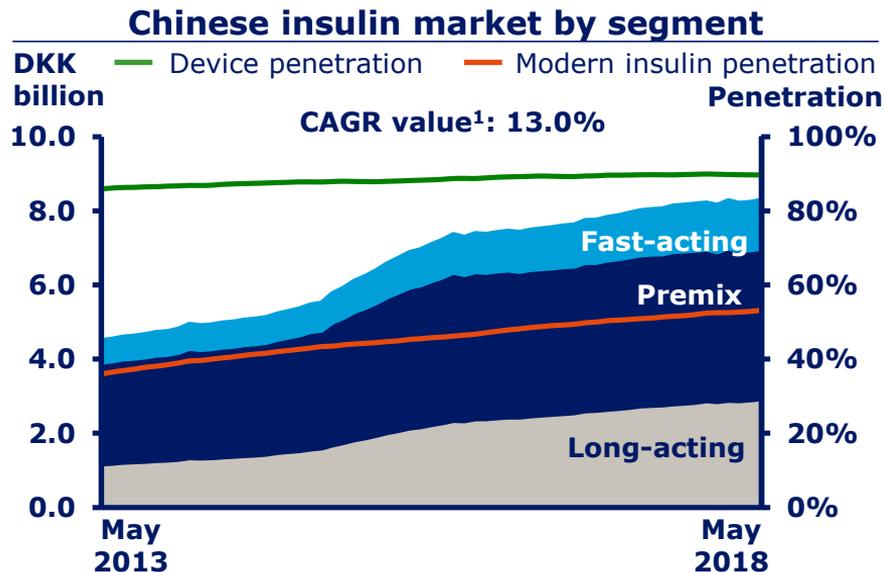
Japanese total insulin value market shares

— Novo Nordisk
 — Eli Lilly
 — Sanofi

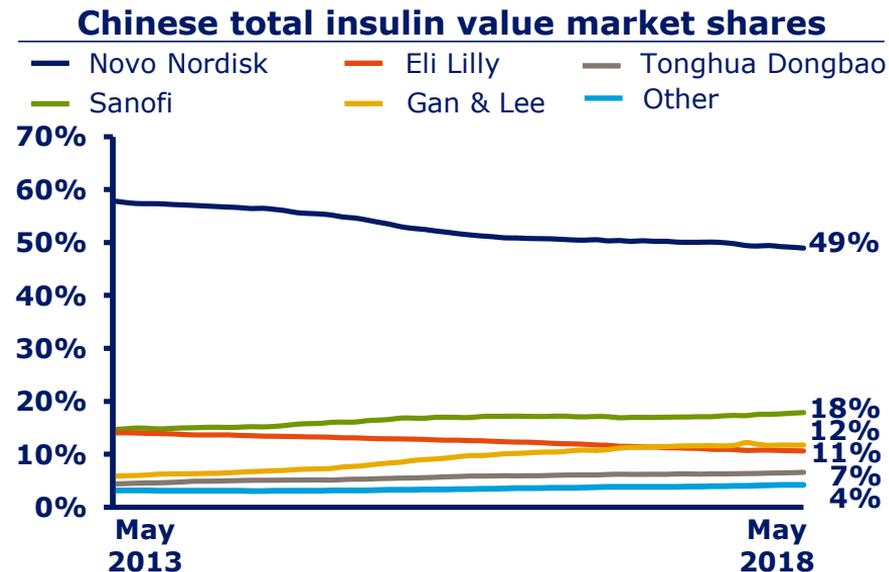


Source: IQVIA monthly MAT May, 2018 value figures

Continued value growth in the Chinese long-acting insulin segment



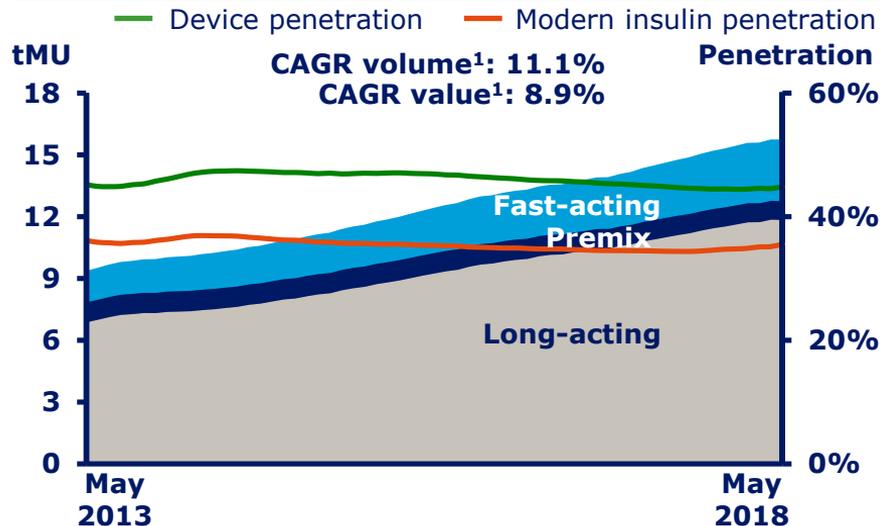
¹ CAGR for 5-year period
 Note: IMS covers around 50% of the total Chinese market (hospital data)
 Source: IQVIA Rolling MAT May, 2018 value (DKK) figures



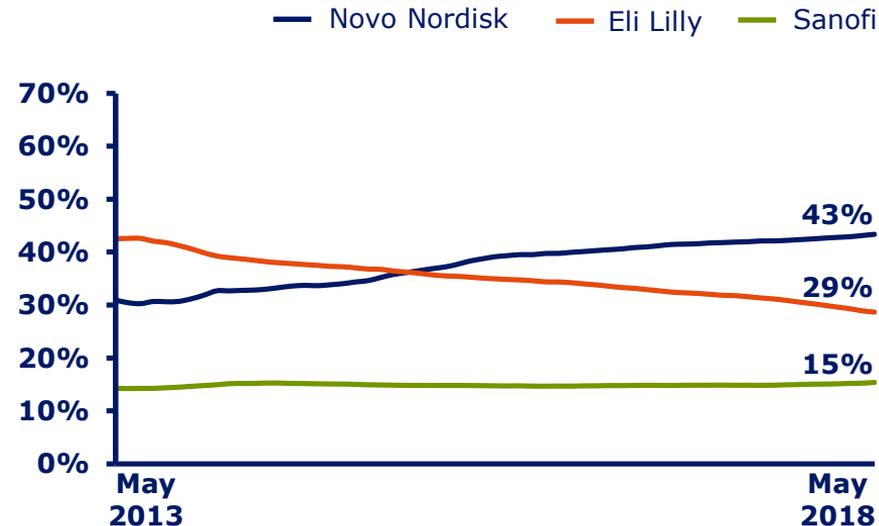
Note: Only selected competitors
 Source: IQVIA Rolling MAT May, 2018 value figures

Strengthened insulin volume market share in Region Latin America

Latin America insulin market by segment



Latin America modern and new-generation insulin volume shares



¹ CAGR for 5-year period

Note: IMS only covers the following 4 markets in Latin America (retail data): Argentina, Brazil, Colombia, Mexico

Source: IQVIA monthly MAT data May, 2018 volume and value (DKK) figures

MI: Modern insulin; NGI: New-generation insulin

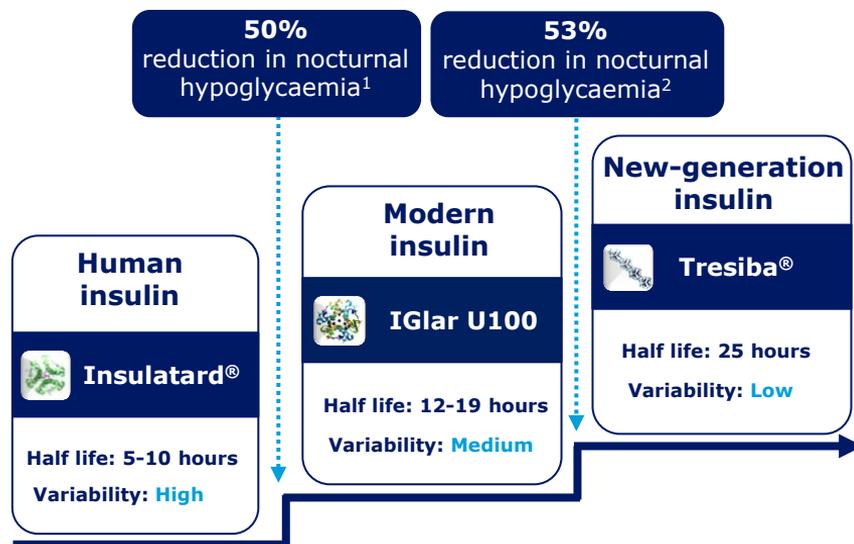
Note: Only top-3 shown

Source: IQVIA monthly MAT data May, 2018 volume figures, numbers do not add up to 100% due to smaller insulin manufacturers not included

MI: Modern insulin; NGI: New-generation insulin

Tresiba® sets a new standard for basal insulin initiation by lowering the risk of hypoglycaemia

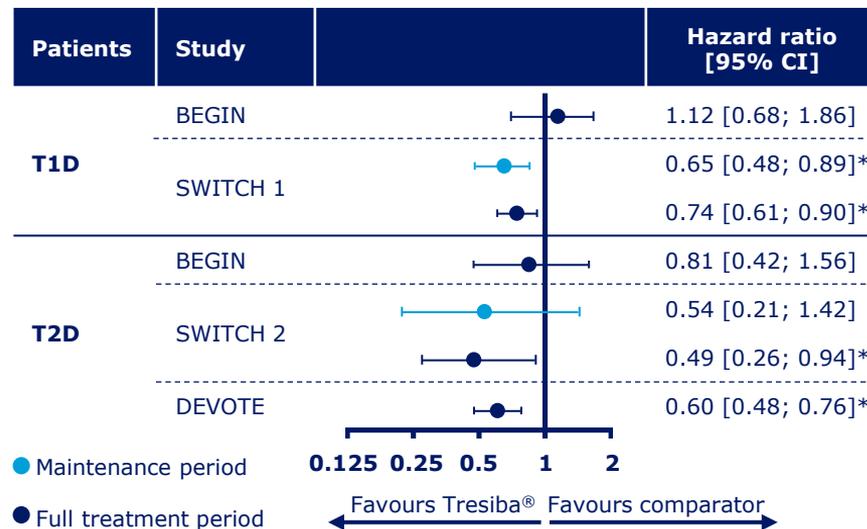
Tresiba® is a leap on the innovation ladder by further reducing nocturnal hypoglycaemia



¹ P. D. Home, A. Fritsche, S. Schinzel & M. Massi-Benedetti, Diabetes, Obesity and Metabolism 12: 772-779, 2010

² DEVOTE, American Diabetes Association 77th Scientific Sessions, 3-CT-SY22, June 12 2017
IGlargin U100: Insulin glargine U100

Tresiba® has consistently demonstrated relevant reductions in severe hypoglycaemia



* Statistically significant difference

Note: Phase 3a BEGIN: Severe=third-party assistance; Phase 3b SWITCH: severe=third-party assistance and adjudicated; Phase 3b DEVOTE: severe=third-party assistance.

T1D: Type 1 diabetes; T2D: Type 2 diabetes; CI: Confidence interval

Source: Ratner et al. Diabetes Obes Metab 2013; Lane et al. Diabetologia 2016;59; Wysham et al. Diabetologia 2016; DEVOTE, American Diabetes Association 77th Scientific Sessions, 3-CT-SY22, June 12 2017

Competitive Tresiba[®] label across the USA, Europe and Japan

Tresiba[®] label characteristics in the USA, Europe and Japanese markets

	USA	Europe	Japan
Profile	<ul style="list-style-type: none"> Half-life of 25 hours and duration of action of at least 42 hours Day to day variability of 20% 	<ul style="list-style-type: none"> Duration of action beyond 42 hours Four times lower day-to-day variability vs insulin glargine 	<ul style="list-style-type: none"> Duration of action up to 26 hours in Japanese patients Four times lower day-to-day variability vs insulin glargine
Efficacy	<ul style="list-style-type: none"> Non-inferior HbA_{1c} reduction Numerically greater FPG reduction Numerically lower insulin dose¹ 	<ul style="list-style-type: none"> Non-inferior HbA_{1c} reduction Numerically greater FPG reduction 	<ul style="list-style-type: none"> Non-inferior HbA_{1c} reduction Numerically greater FPG reduction
Safety	<ul style="list-style-type: none"> Overall safety consistent with insulin Hypoglycaemia rates for Tresiba[®], but not comparator 	<ul style="list-style-type: none"> Overall safety consistent with insulin Lower rate of overall and nocturnal hypoglycaemia 	<ul style="list-style-type: none"> Overall safety consistent with insulin Lower rate of nocturnal hypoglycaemia in Asian subjects
Convenience	<ul style="list-style-type: none"> Injection any time of day Up to 80 and 160 units per injection 	<ul style="list-style-type: none"> Adjusting injection time when needed Up to 80 and 160 units per injection 	<ul style="list-style-type: none"> In case of missed dose take as soon as possible

¹ Observed in majority of the trials

GLP-1



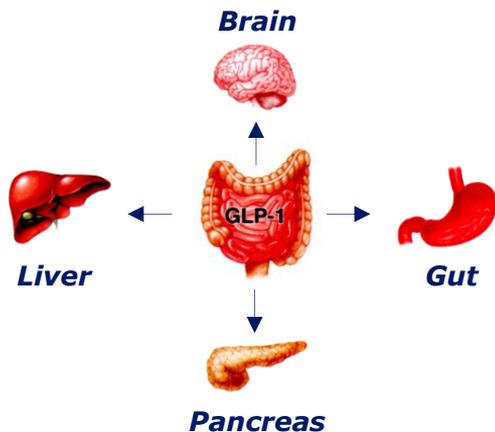
REN YANXIA
Ren has type 2 diabetes
China

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7. Ozempic® 67
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9. Clinical trials (SUSTAIN & PIONEER) 74-78

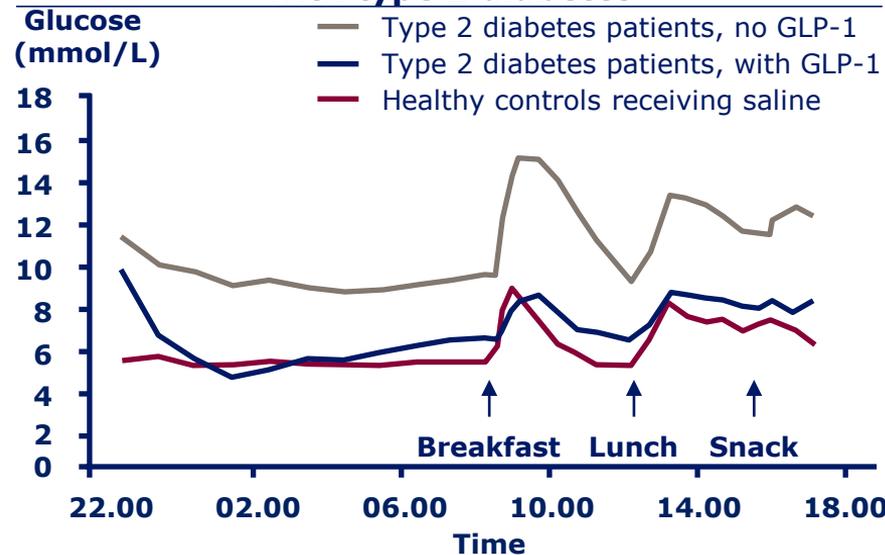
GLP-1 effect dependent on level of blood glucose

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

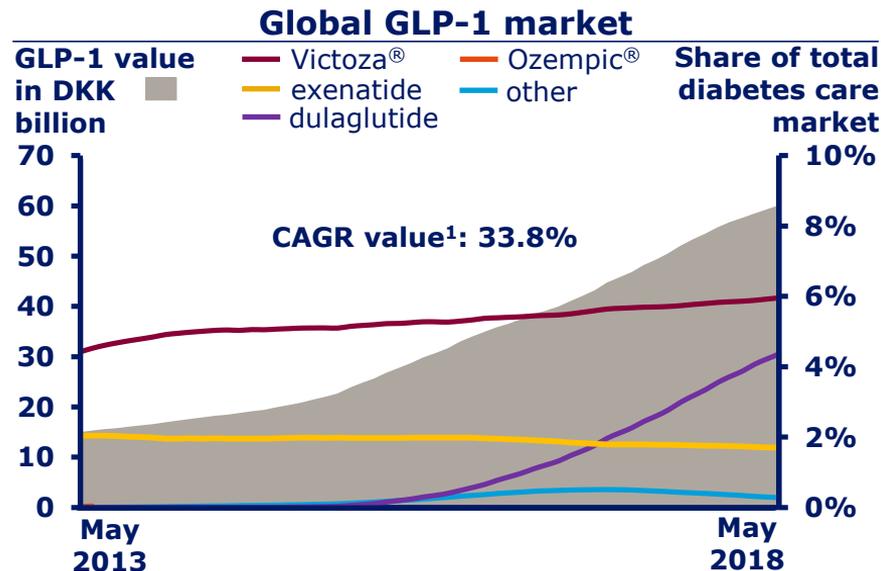


GLP-1 lowers blood glucose in patients with type 2 diabetes



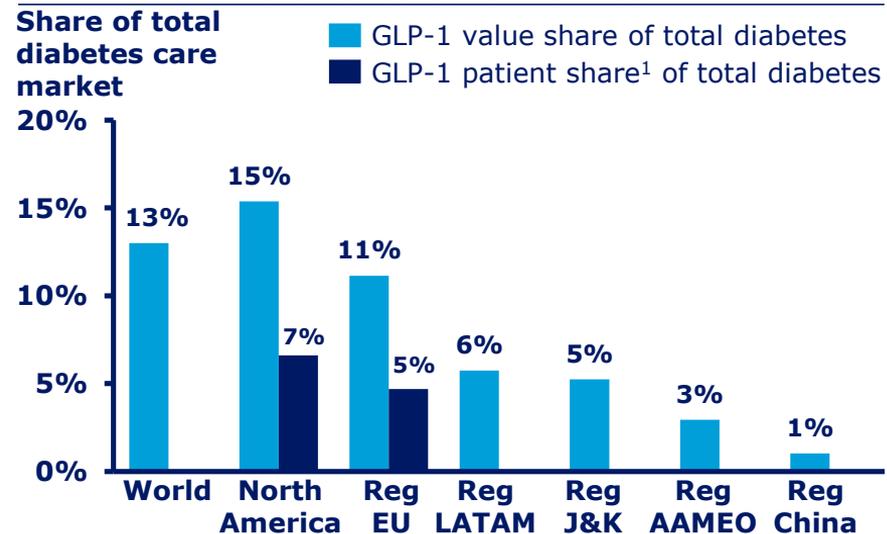
Source: Rachman et al. Diabetologia 1997;40:205-11

The GLP-1 segment accounts for 13% of the global diabetes care market value



¹ CAGR for 5-year period
Source: IQVIA monthly MAT May, 2018 value figures (DKK)

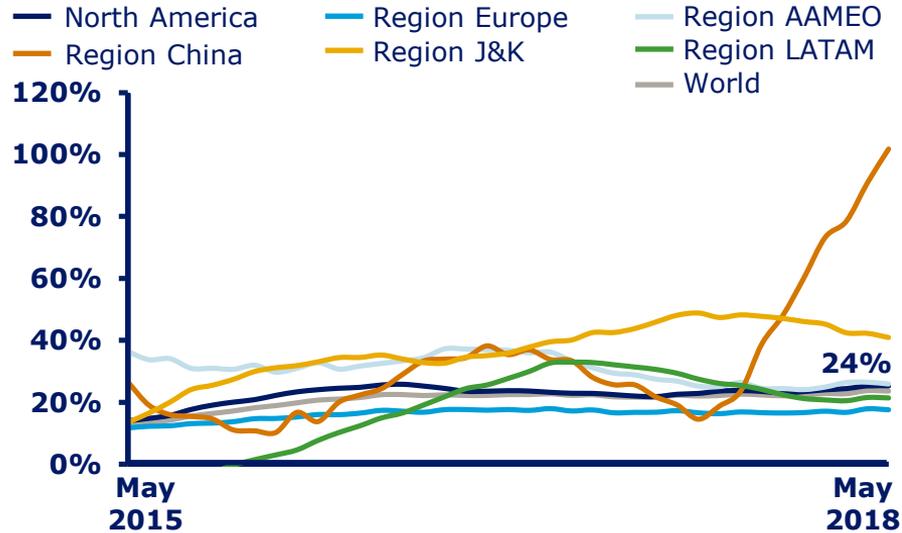
GLP-1 value and patient share of the total diabetes care market



Reg: Region; AAMEO: Africa, Asia, Middle-East and Oceania; J&K: Japan & Korea; LATAM: Latin America.
¹ Patient share is indicative and based on data for US, UK, Germany and France only.
Source: Value data; IQVIA monthly MAT May, 2018. Patient data; IQVIA Disease Analyser (DE, FR, UK), QuintilesIQVIA LRx (USA), May 2018

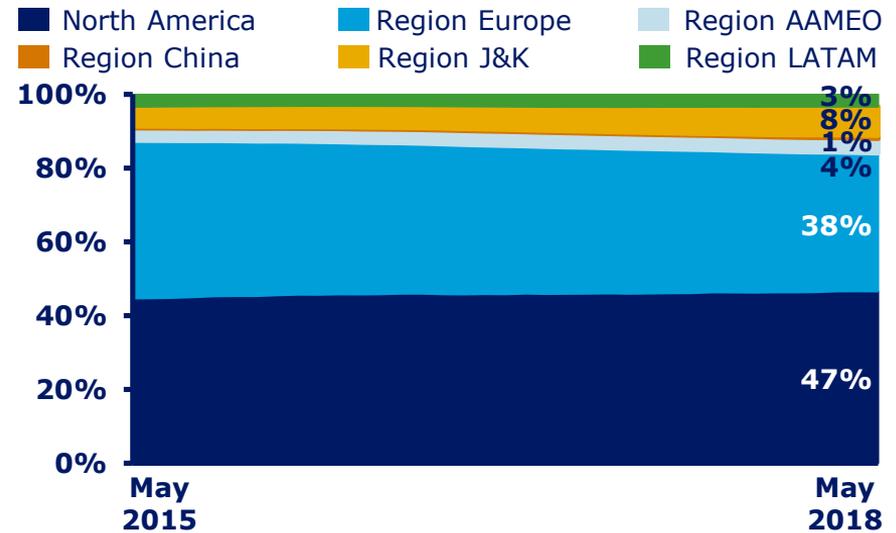
Strong GLP-1 volume growth in all regions

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: IQVIA monthly MAT May, 2018 volume figures

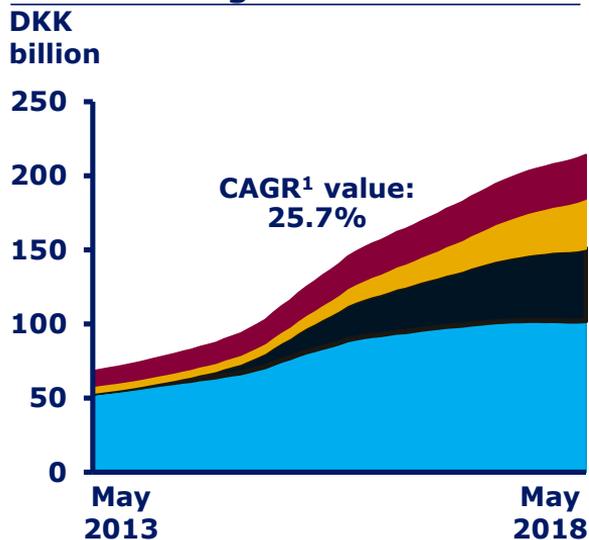
Regional GLP-1 volume market split



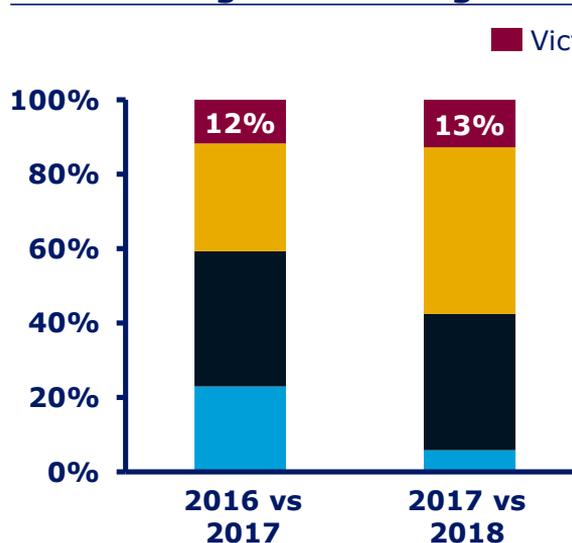
J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle East and Oceania; LATAM: Latin America
 Note: Data is sensitive to changes in IMS data collection and reporting methodology
 Source: IQVIA monthly MAT May, 2018 volume figures

Victoza[®] maintains a 14% value market share in the GLP-1, SGLT-2 and DPP-IV segment

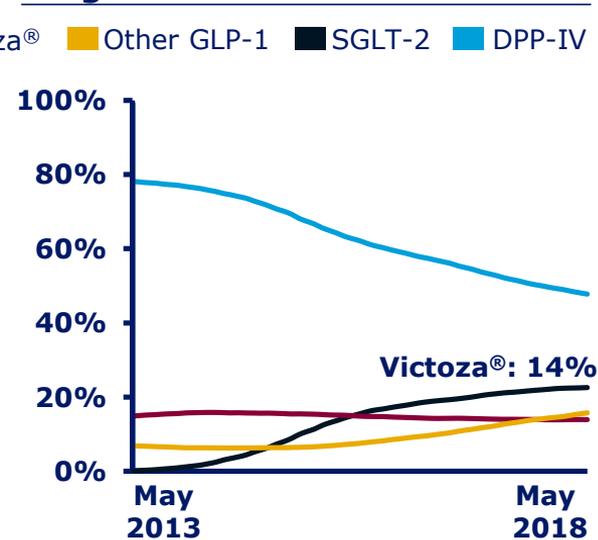
Segment value



Share of segment value growth



Segment value market shares



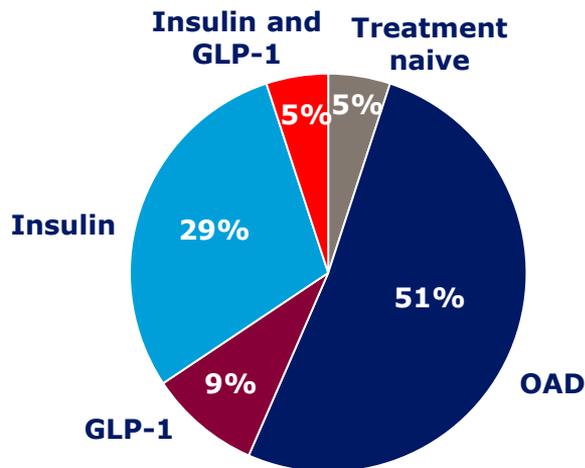
¹ CAGR for 5-year period

Note: Segment only includes DPP-IV, GLP-1 & SGLT-2. Other oral anti-diabetic agents and insulin excluded

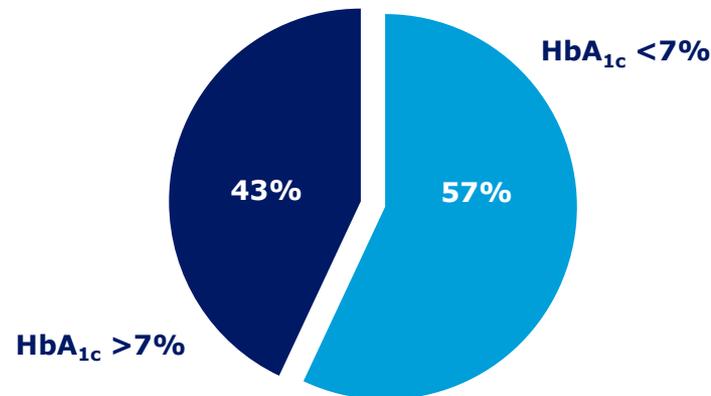
Source: IQVIA MAT May, 2018 value figures

GLP-1 patients primarily switch from OADs and untapped potential is large with many OAD patients not in control

**GLP-1 source of business
(new-to-brand prescription market share)**



**Share of patients on OADs achieving
HbA_{1c} below 7% in major European countries**

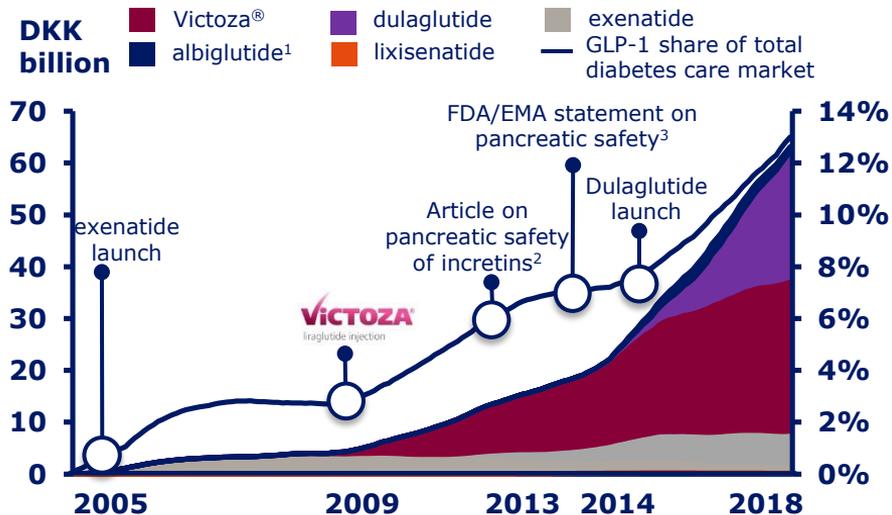


Note: Data based on data from France, Germany, UK and USA only
 OAD: Oral anti-diabetic (includes but is not limited to DPP-IV, SGLT-2, metformin and sulfonylurea)
 Source: IQVIA Disease Analyser (France, Germany and UK) and IQVIA (formerly IMS) LRx (USA), Sep 2017

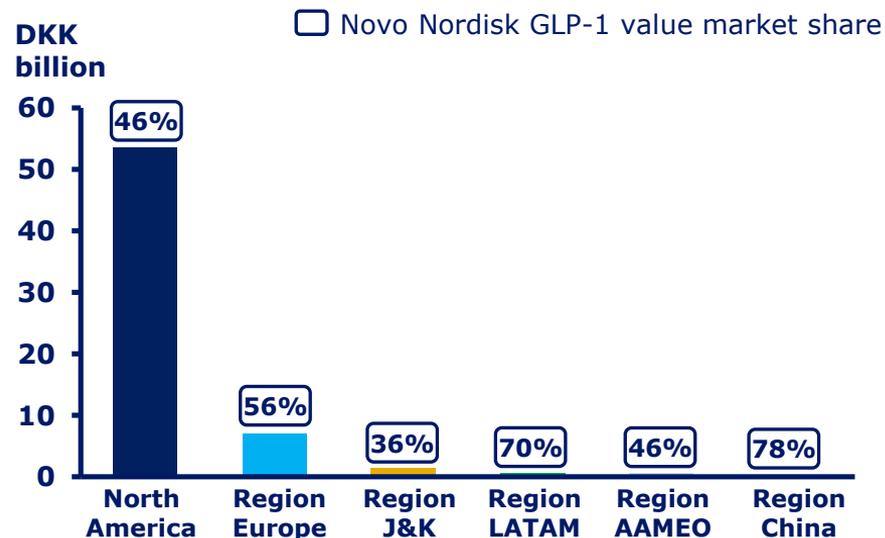
Note: Data based on data from France, Germany and UK only
 Source: IQVIA Disease Analyser (France, Germany and UK), Sep 2017

Significant growth in GLP-1 market with leading market share for Victoza®

Global GLP-1 market value and share of total diabetes care market value



Novo Nordisk GLP-1 value market share leading in all regions except Japan & Korea



¹ Manufacturing and sale of albiglutide expected to be discontinued by Jul 2018

² Butler et al, Marked Expansion of Exocrine and Endocrine Pancreas With Incretin Therapy in Humans With Increased Exocrine Pancreas Dysplasia and the Potential for Glucagon-Producing Neuroendocrine Tumors, Diabetes, Vol. 62, Jul 2013

³ Egan et al, Pancreatic Safety of Incretin-Based Drugs — FDA and EMA Assessment, The New England Journal of Medicine 370:9, 27 Feb 2014

Source: IQVIA MIDAS, monthly data, May 2018 (Note: IQVIA data does not adequately capture rebates resulting in an overstatement of market value)

FDA: US Food and Drug Administration; EMA: European Medicines Agency

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

Source: Reported sales until May 2018; IQVIA MIDAS, May 2018



Ambition for Ozempic® to become leading weekly GLP-1, with daily GLP-1 use shifting to oral semaglutide

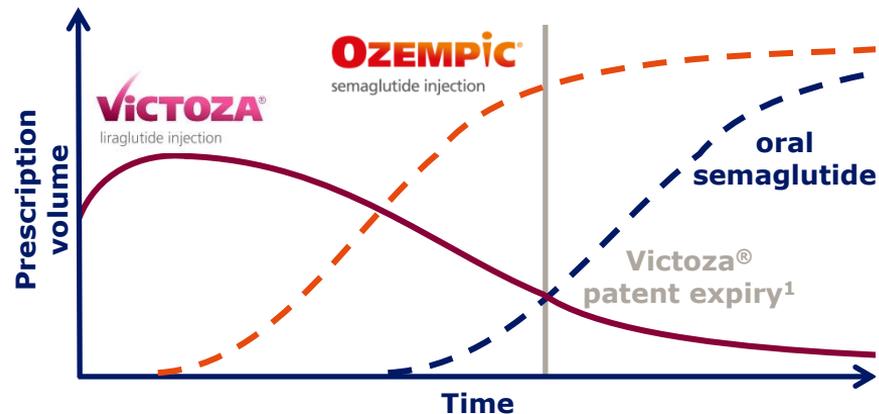
Promotional focus to shift from Victoza® towards Ozempic® as market access emerges

Illustrative



Aim for Ozempic® and oral semaglutide to replace Victoza® as market leaders

Illustrative



¹ Victoza patent expiry expected in 2022/2023 in most markets

OZEMPIC® approved in the USA and in the EU



Ozempic® label in the USA

Profile

- Adjunct to diet and exercise to improve glycaemic control
- Two therapeutic dosages, 0.5 mg and 1 mg

Efficacy

- Reduction in HbA_{1c} vs comparators¹
- Reduction in body weight vs comparators¹

Convenience

- Administered once-weekly
- To be launched in the Ozempic® pen

Safety

- Retinopathy wording similar to insulin labels
- Cardiovascular safety with number of MACE events in clinical section²

¹ Statistically significant reduction compared to comparators: placebo, sitagliptin, exenatide extended-release and insulin glargine U100 (phase 3a SUSTAIN trial programme)

² In SUSTAIN 6, there were 108 MACE events with Ozempic® compared to 146 events with placebo, equivalent to an event rate of 6.6% with Ozempic® and 8.9% with placebo



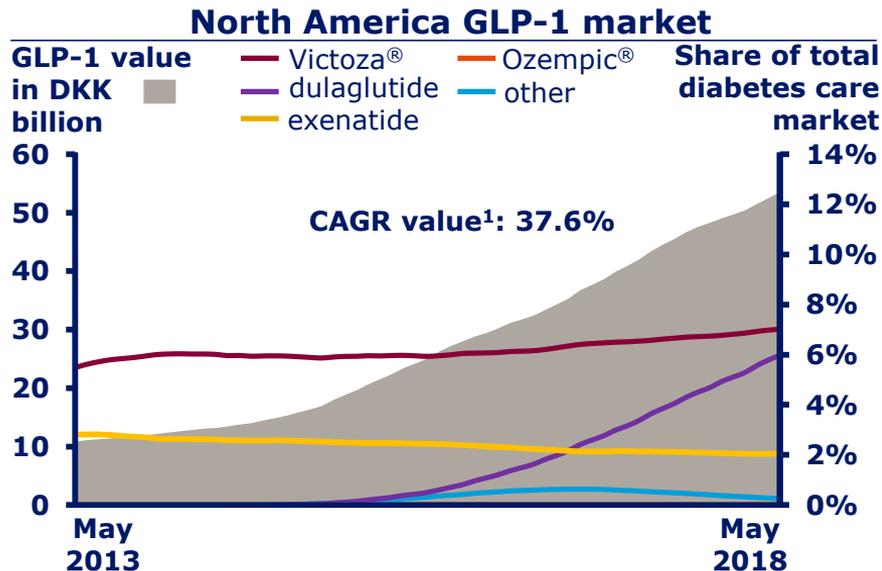
CV data from SUSTAIN 6 trial in Ozempic® EU label

	Ozempic® label	Victoza® label
Trial	SUSTAIN 6	LEADER
Patients	3,297	9,340
Reference to CV results in indication	Included	Included
MACE	HR: 0.74 ¹	HR: 0.87 ²
Kaplan-Meier	Included	Included

¹ 95% confidence interval [0.58;0.95]. ² 95% confidence interval [0.78;0.97]

CV: Cardiovascular; MACE: Major adverse cardiovascular events; HR: Hazard ratio

The GLP-1 segment accounts for 15% of total diabetes care market value in North America



¹ CAGR for 5-year period

Source: IQVIA monthly MAT May, 2018 value figures (DKK)

Key observations for Victoza® in the US market

- Victoza® value market share within the GLP-1 segment is 54%¹
- Around 80% of Commercial and around 90% of Medicare Part D GLP-1 market volume is covered without restrictions²
- Around 90% of new patients who start on Victoza® transition from outside of GLP-1 segment³
- Around 70% of prescriptions are for the higher dose 1.8 mg⁴

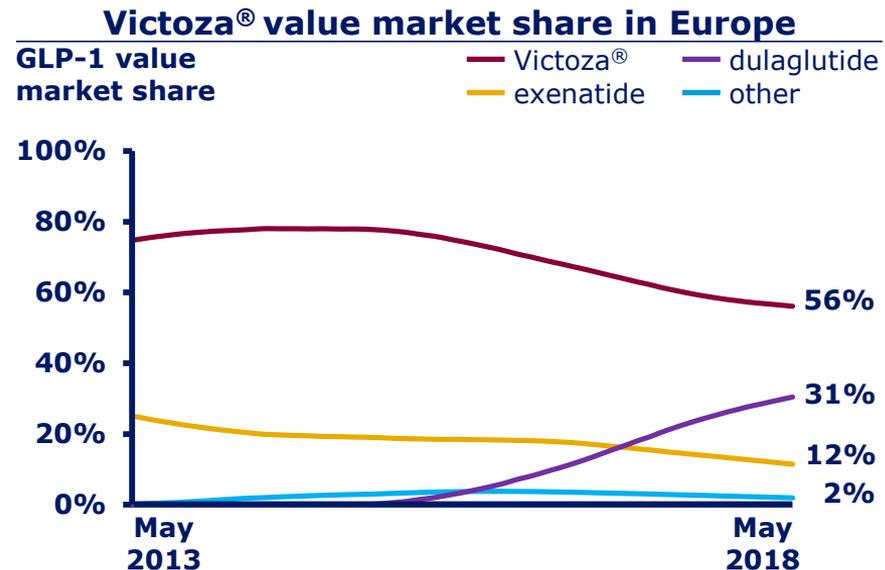
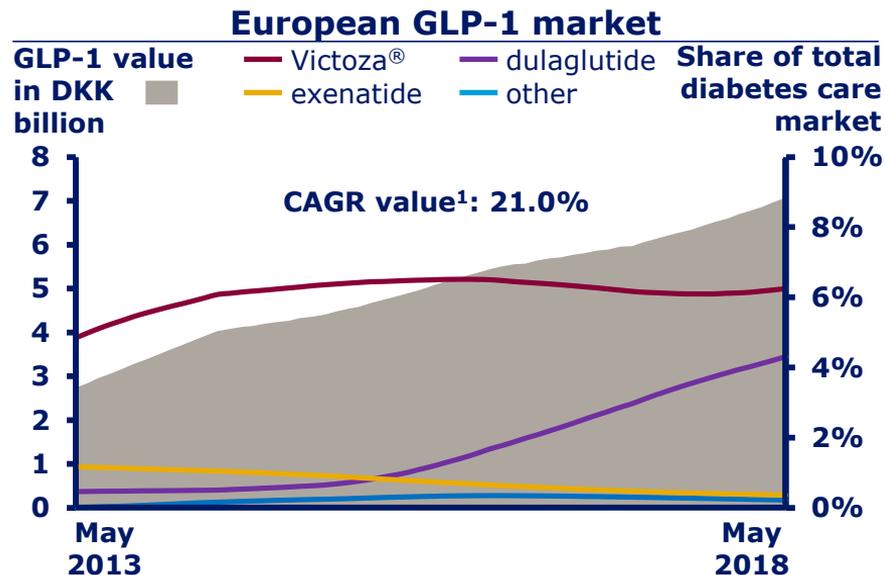
1. Source: IQVIA NSP monthly, MAT May 2018

2. FingerTip Formulary bridge/ May 2018 Nomenclature and Xponent PlanTrak only considers bridged volume; excludes cash and mail order data;

3. IQVIA SOB, June 2018

4. IQVIA, NPA, June 2018

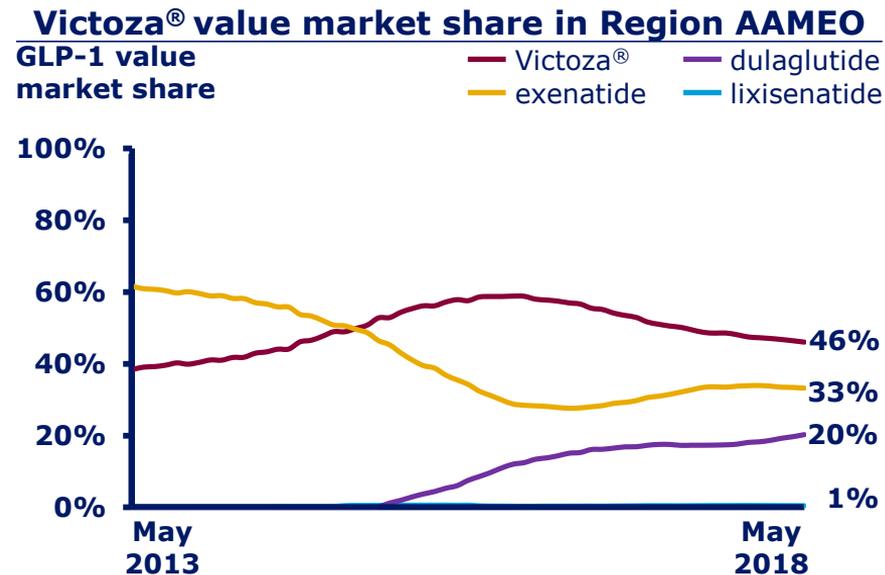
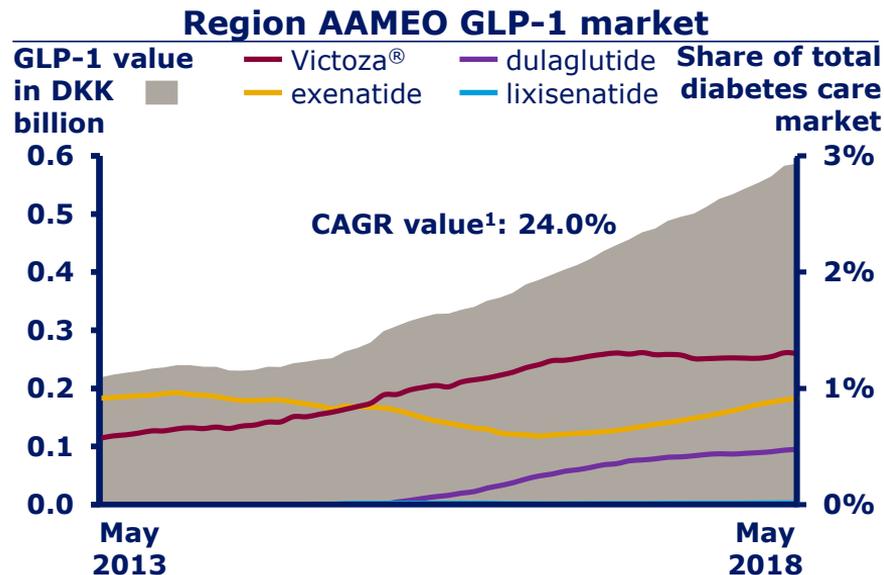
The GLP-1 segment accounts for around 11% of total diabetes care market value in Europe



¹ CAGR for 5-year period
Source: IQVIA monthly MAT May, 2018 value figures (DKK)

Source: IQVIA monthly MAT May, 2018 value figures (DKK), market share does not add up to 100% due to rounding

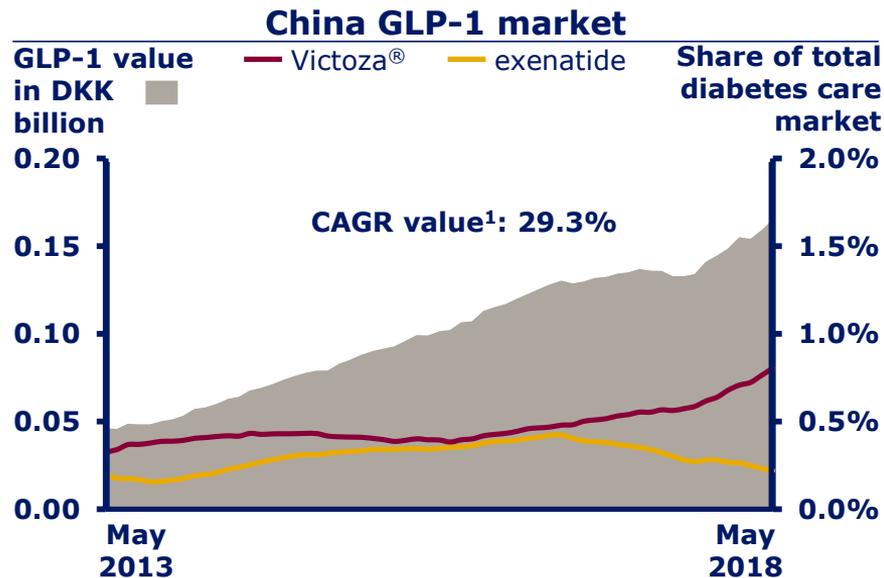
The GLP-1 segment accounts for 3% of total diabetes care market value in Region AAMEO



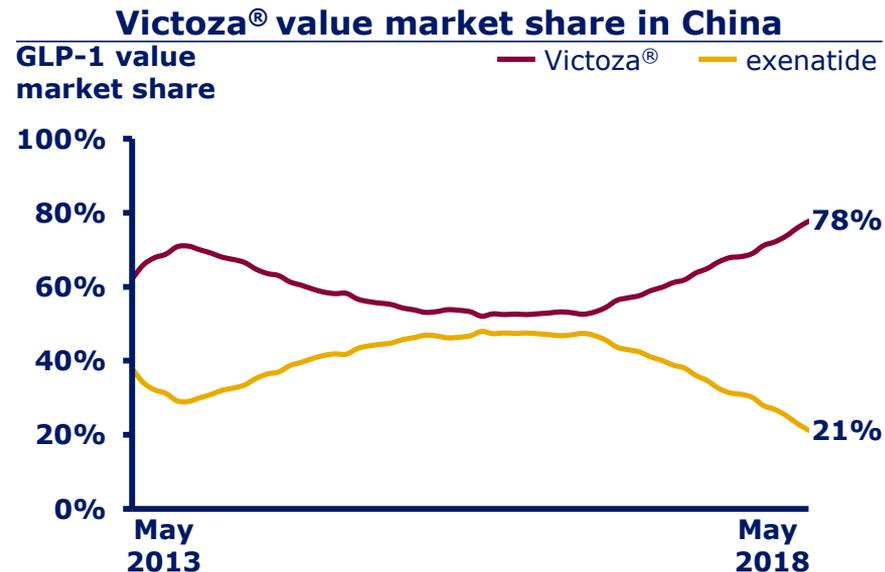
¹ CAGR for 5-year period
 AAMEO: Africa, Asia, the Middle East and Oceania
 Source: IQVIA monthly MAT May, 2018 value figures (DKK)

Source: IQVIA monthly MAT May, 2018 value figures (DKK)

The GLP-1 segment accounts for around 1% of the total diabetes care market value in Region China

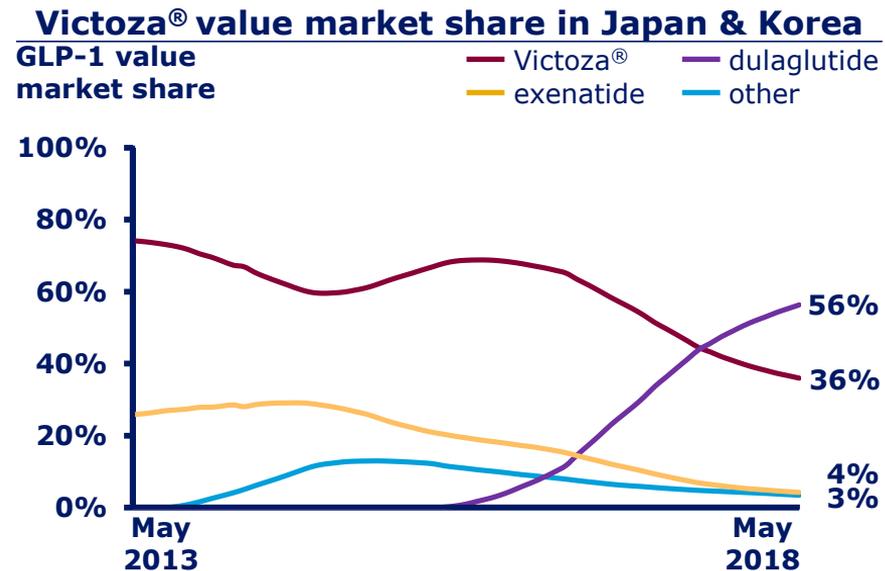
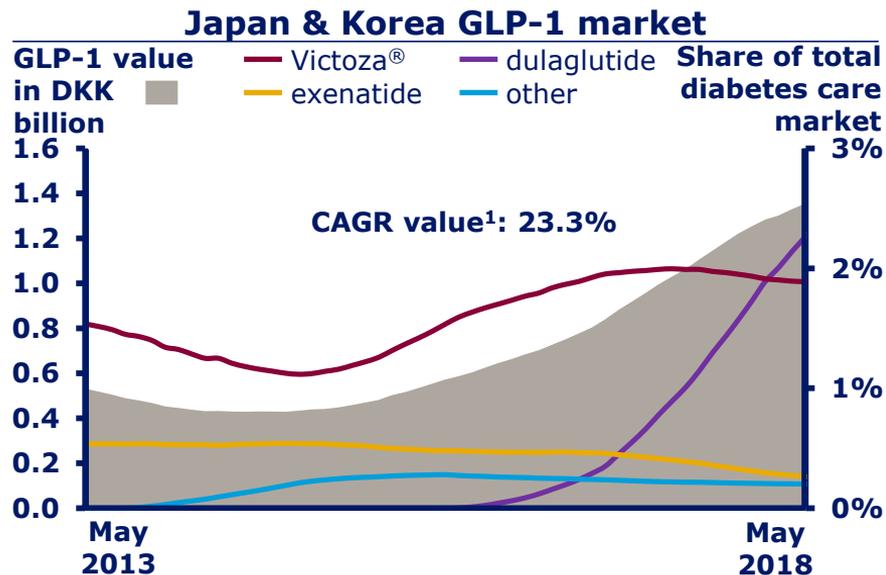


¹ CAGR for 5-year period
Source: IQVIA monthly MAT May, 2018 value figures (DKK)



Source: IQVIA monthly MAT May, 2018 value figures (DKK), market share does not add up to 100% due to rounding

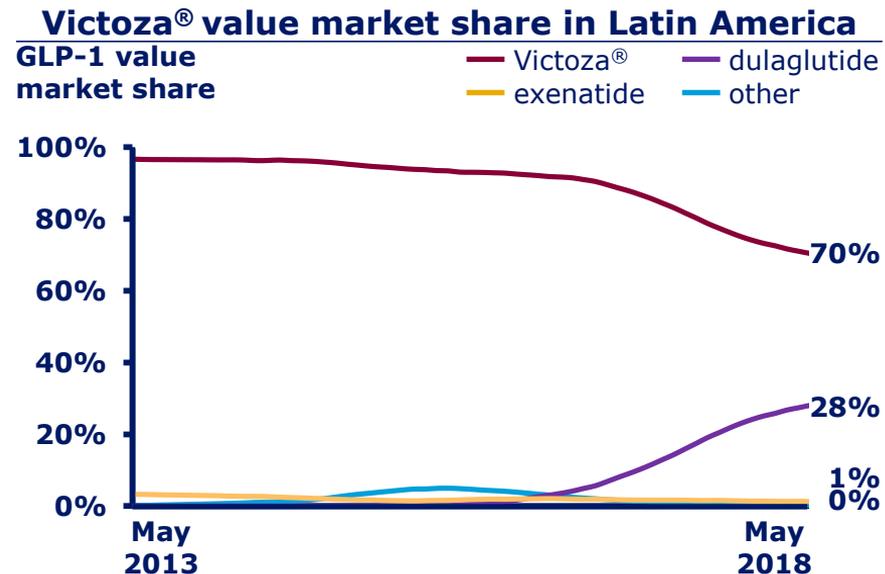
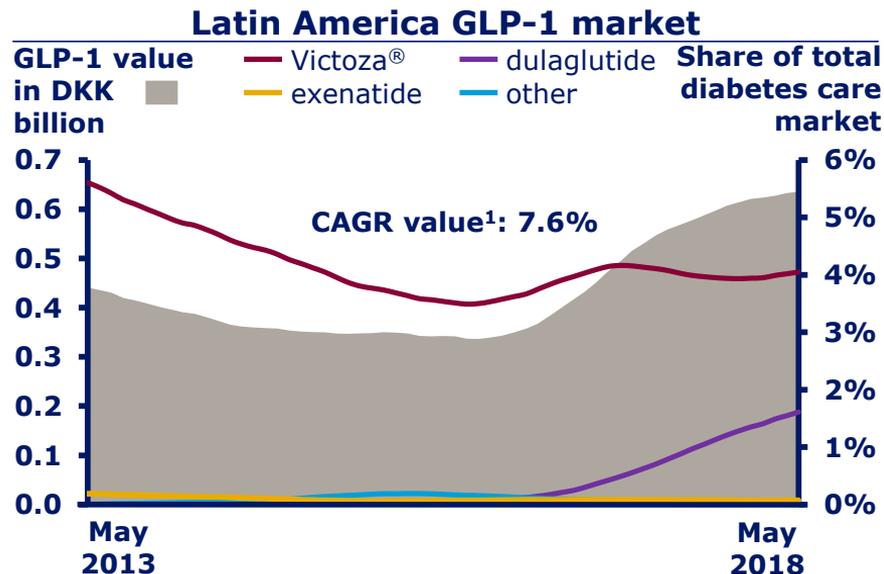
The GLP-1 segment accounts for around 5% of the total diabetes care market in Region Japan & Korea



¹ CAGR for 5-year period
Source: IQVIA monthly MAT May, 2018 value figures (DKK)

Source: IQVIA monthly MAT May, 2018 value figures (DKK), market share does not add up to 100% due to rounding

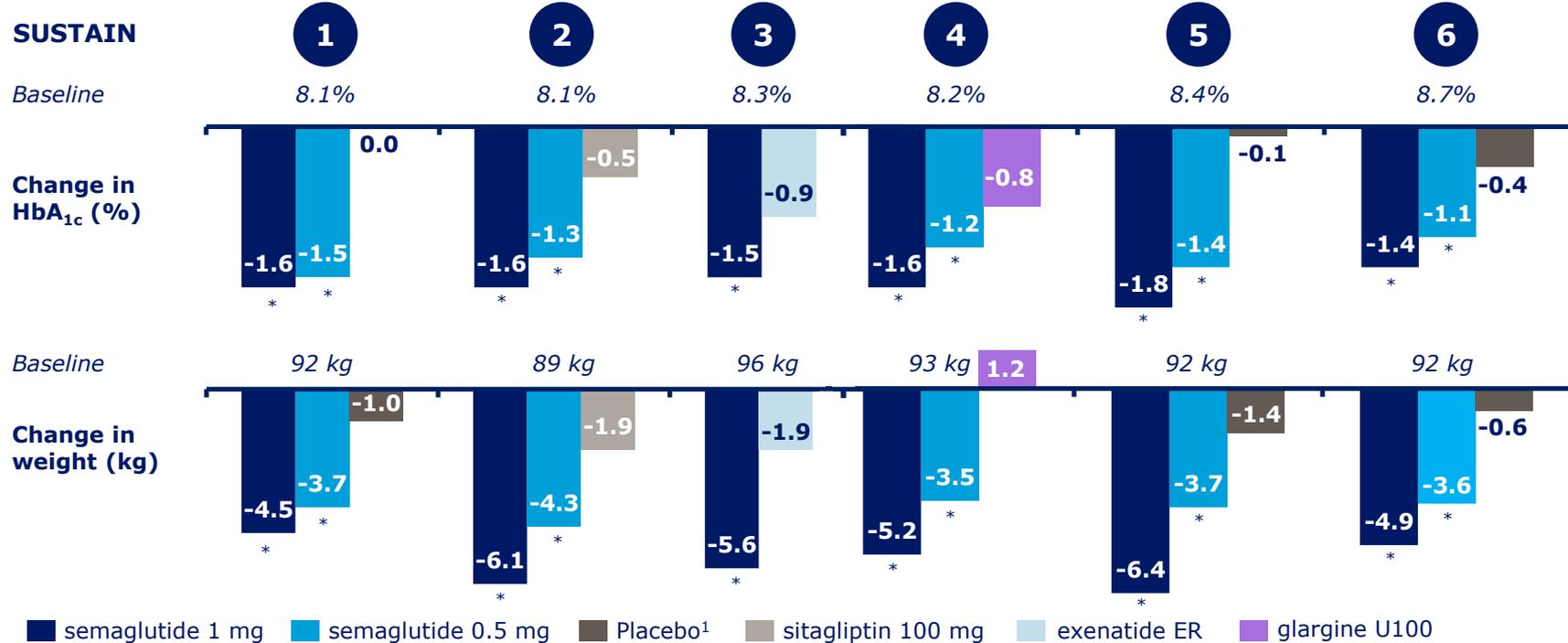
Strong Victoza® market leadership in Region Latin America



¹ CAGR for 5-year period
 Source: IQVIA monthly MAT May, 2018 value figures (DKK)

Source: IQVIA monthly MAT May, 2018 value figures (DKK) , market share does not add up to 100% due to rounding

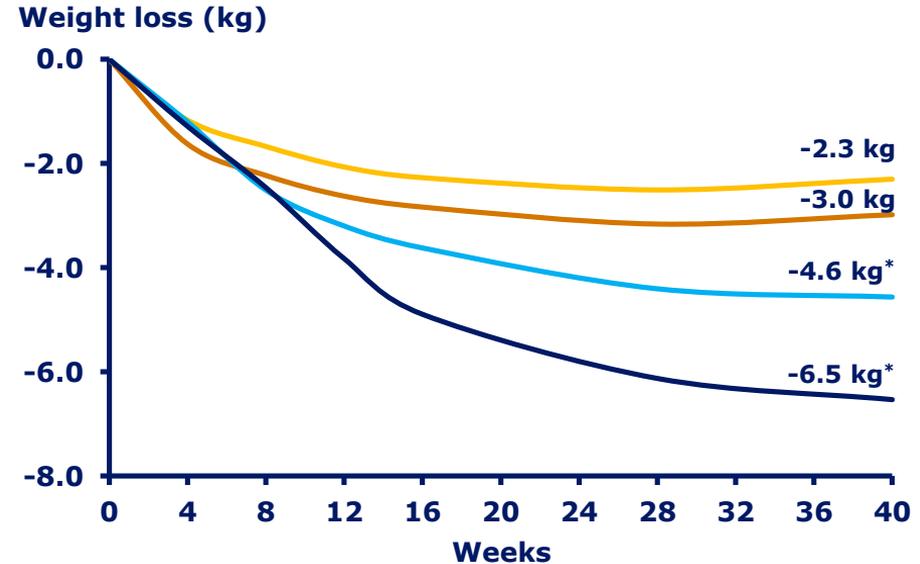
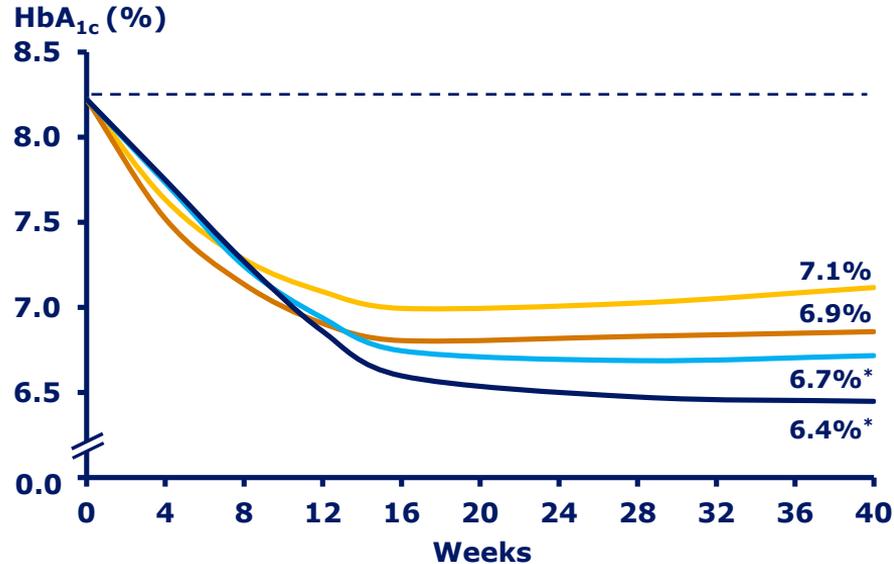
SUSTAIN phase 3a trials with semaglutide successfully completed



* Statistically significant; ¹ SUSTAIN 1: Once-weekly semaglutide versus placebo in drug-naïve subjects with type 2 diabetes; SUSTAIN 5: Once-weekly semaglutide versus placebo in subjects with type 2 diabetes added to insulin; SUSTAIN 6: Once-weekly semaglutide versus placebo, added to standard-of-care
ER: Extended-release

Semaglutide demonstrated superiority on both glucose control and weight loss vs dulaglutide in SUSTAIN 7 trial

— dulaglutide 0.75 mg — dulaglutide 1.5 mg — semaglutide 0.5 mg — semaglutide 1.0 mg

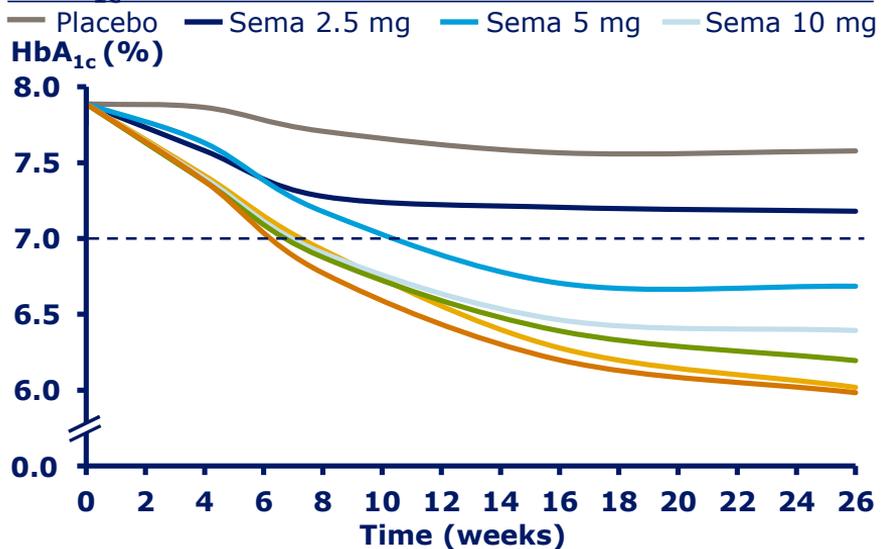


* p-value < 0.0001

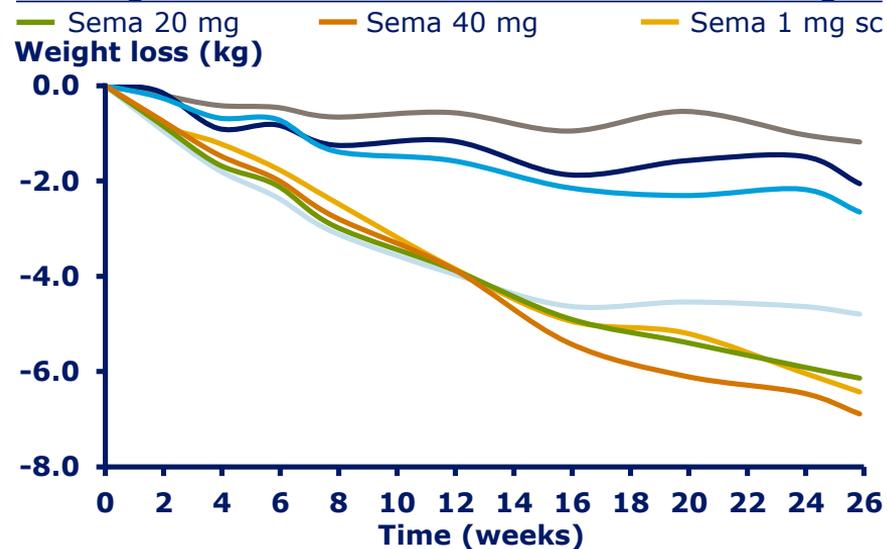
Note: Inclusion criteria: Male or female, age ≥18 years, stable treatment with metformin, HbA_{1c} 7.0-10.5%; from a mean baseline of 8.2% HbA_{1c}

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

HbA_{1c} reduction from a mean baseline of 7.9%

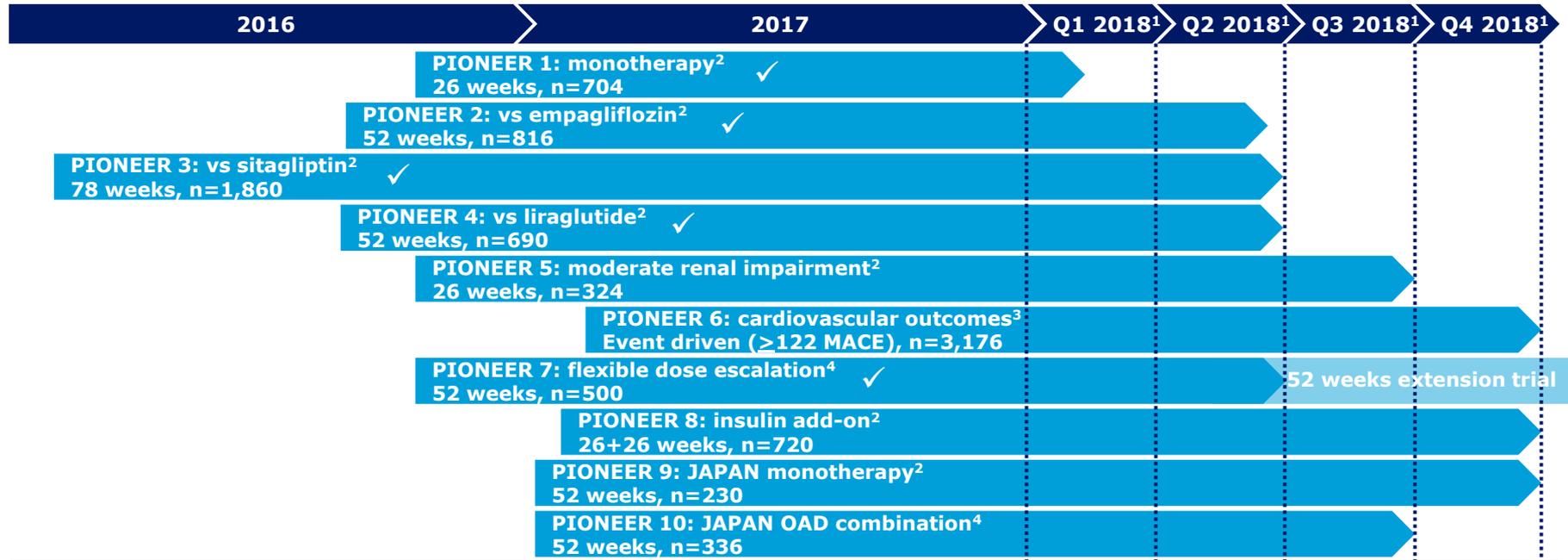


Weight loss from a mean base line of 92 kg



Inclusion criteria: Type 2 diabetes; $7.0\% \leq \text{HbA}_{1c} \leq 9.5\%$; treatment with diet and exercise with or without metformin; sc: subcutaneous; sema: semaglutide

5 out of 10 PIONEER trials for oral semaglutide are completed, rest are expected to read out during H2 2018



¹ Expected to be published in the given quarter or in the subsequent quarterly company announcement. Estimated timing from first patient first visit to completion of trial

² Primary endpoint after 26 weeks of treatment by using the statistical method: Treatment policy estimand approach

³ Primary endpoint after ≥ 122 major adverse cardiovascular events (MACE), defined by non-fatal stroke, non-fatal myocardial infarction or CV death

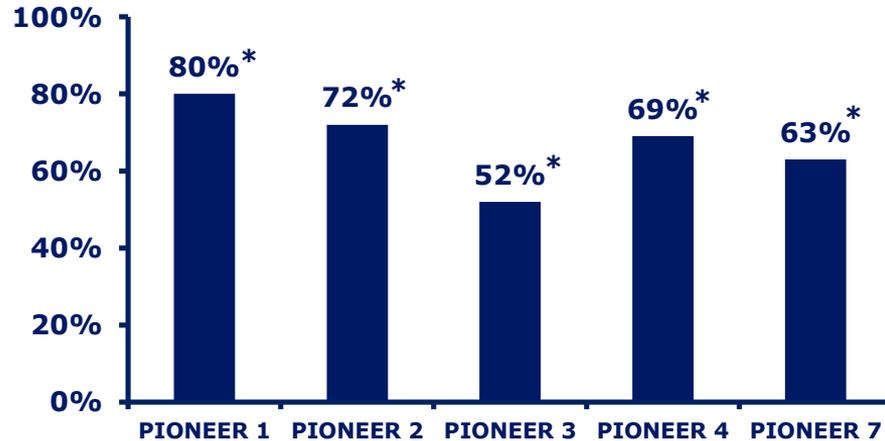
⁴ Primary endpoint after 52 weeks of treatment by using the statistical method: Treatment policy estimand approach

Note: n= approximate number of randomised people; OAD: oral anti-diabetic

In the completed PIONEER trials between 52–80% of patients on oral semaglutide achieved an HbA_{1c} level <7%

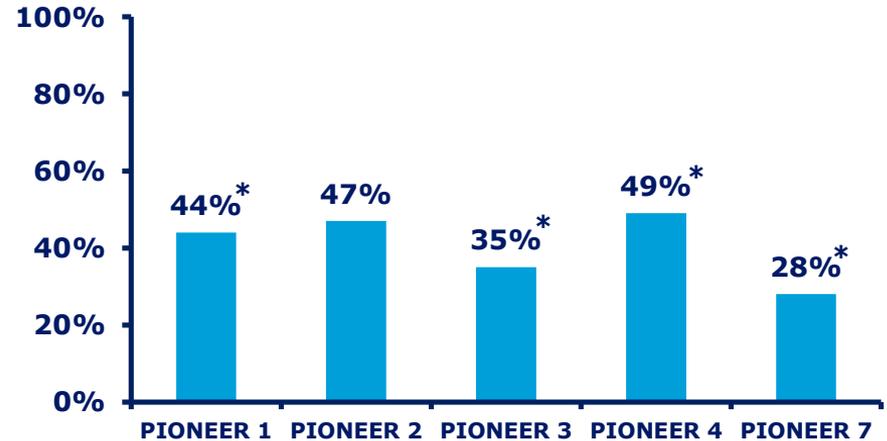
In completed PIONEER trials 52–80% of patients achieved an HbA_{1c} level <7.0% (ADA guidance)¹

Proportion of patients (%)



In completed PIONEER trials 28–49% of patients achieved a weight loss of ≥ 5%¹

Proportion of patients (%)



¹ Hypothetical estimand, observed data

* Statistically significant vs comparator (PIONEER 1 vs placebo; PIONEER 2 vs empagliflozin 25 mg; PIONEER 3 vs sitagliptin 100 mg; PIONEER 4 vs Victoza® 1.8 mg; PIONEER 7 vs sitagliptin 100 mg)

Note: results shown are: PIONEER 1 for 26 weeks with 14 mg oral semaglutide, PIONEER 2 and 4 for 52 weeks with 14 mg oral semaglutide; PIONEER 3 for 78 weeks with 14 mg oral semaglutide; PIONEER 7 for 52 weeks with a mixed dose

Source: Novo Nordisk data on file

Obesity



1. Obesity as a chronic disease 80

2. Obesity treatment 81

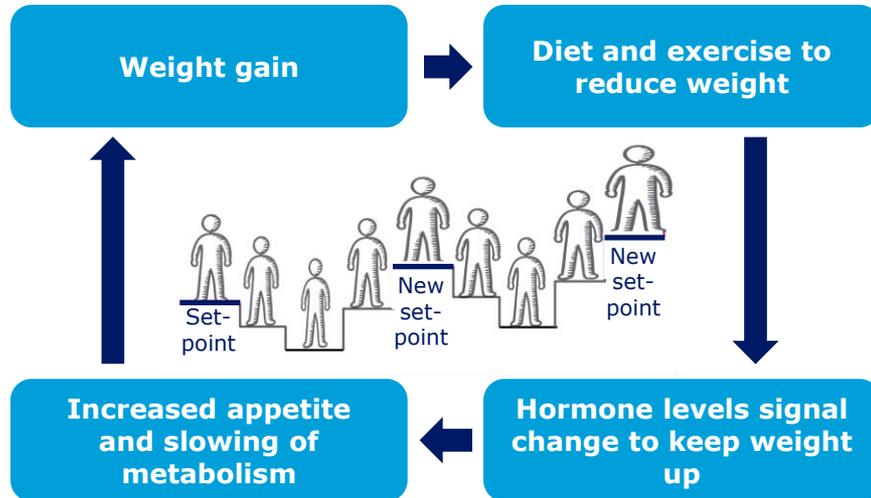
3. Saxenda® 83

4. Obesity pipeline 85

5. STEP and SELECT 87

Obesity is a chronic disease that requires treatment

The set-point theory portrays how metabolic changes affect the ability to lose weight



The body fights weight loss for people with obesity

- The body “remembers” its highest body weight and defends this body weight as the “new normal weight”
- During weight loss, changes occur in appetite-regulating hormones, which increase hunger
- If people with obesity do not eat enough, the hormones trigger the body to conserve energy
- Changes in hormones persist for at least 5-10 years following weight loss

Treatment rate is low and an increase requires a change of mindset and physician engagement

Only 2% of the 650 million people with obesity are treated with prescription medication



Key barriers to effective obesity management

Mindset

- Belief that obesity is self-inflicted
- Focus on acute weight loss rather than chronic weight management

Few prescribers engaged

- Physicians not equipped to engage in and treat obesity

Limited patient access

- Funding and reimbursement a hurdle for physicians and patients

Note: The figure illustrates some of the intervention points to treat obesity with prescription medication

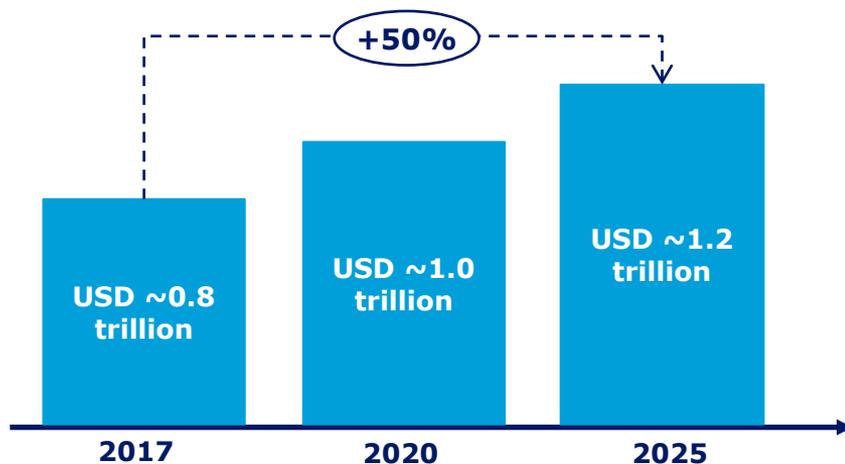
¹ Attempt to manage weight through lifestyle modification or surgery

² 2% of people with obesity are estimated to be treated with anti-obesity medication

Source: IQVIA MIDAS 2017

The healthcare cost associated with obesity expected to increase

Global healthcare costs related to obesity expected to increase by 50% by 2025



Source: World Obesity Federation, 2017

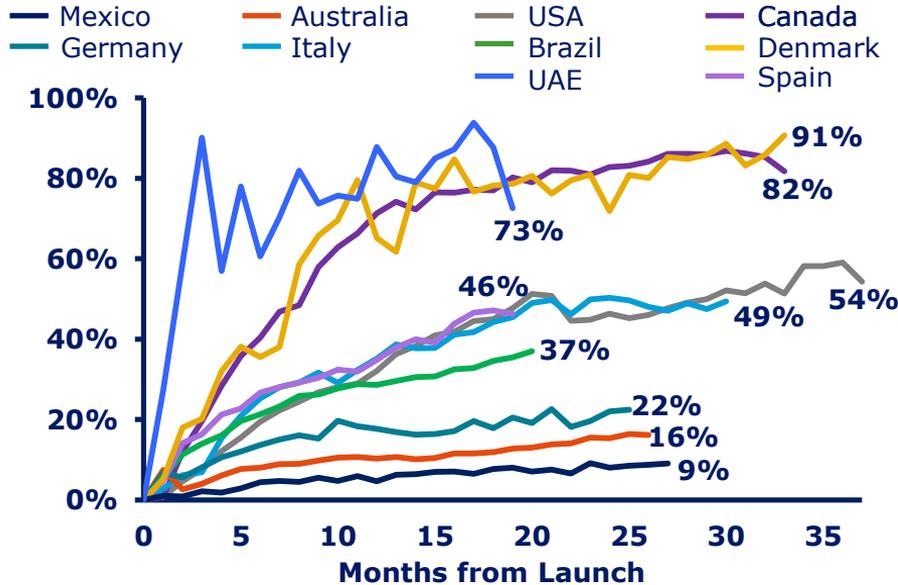
Increase in healthcare costs primarily driven by obesity-related comorbidities

- Today, 650 million people have obesity globally
- By 2025, ~1 billion people are expected to have obesity
- If left untreated, by 2025, the costs of treating complications of obesity is expected to reach USD ~550 billion in the US and USD ~1.2 trillion globally
- The increased healthcare costs are primarily driven by obesity-related comorbidities such as type 2 diabetes and cardiovascular disease

Source: WHO, October 2017; World Obesity Federation, 2017

Saxenda® now launched in 30 countries

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

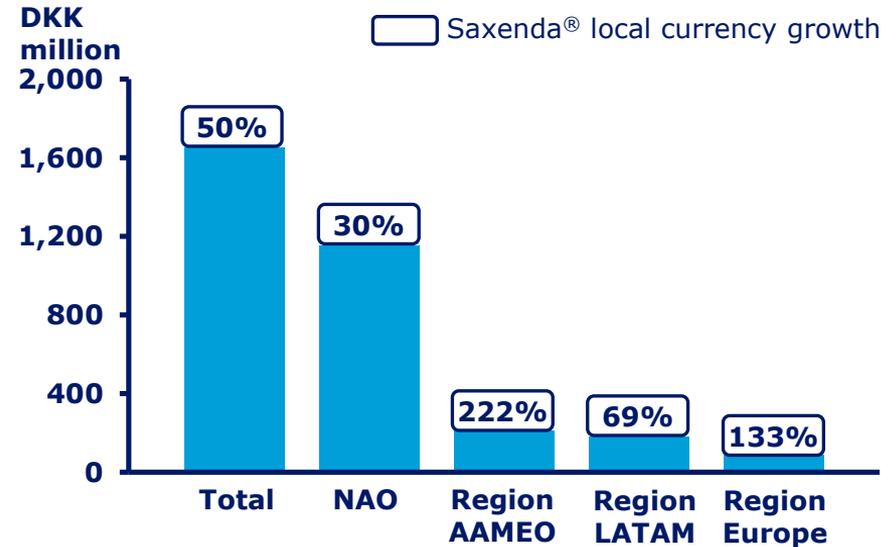


Source: IQVIA May 2018

Note: The market for anti-obesity medication varies significantly in size between countries

changing
diabetes®

Saxenda® sales in H1 2018¹

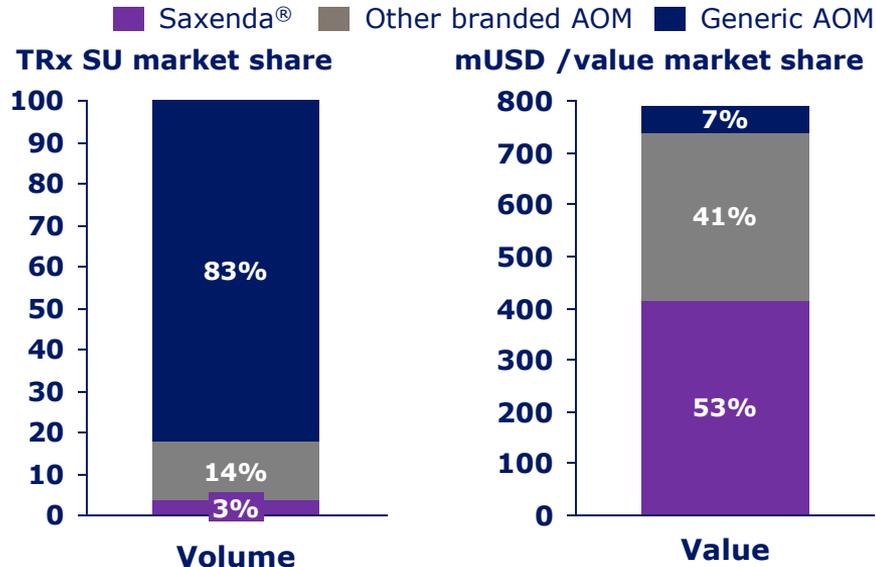


NAO: North America Operations

¹ Reported sales for first six months of 2018

Saxenda® has rapidly grown value market share, but market development efforts are required to expand the market

Despite strong Saxenda® growth, US obesity care market remains small at around USD 787 million



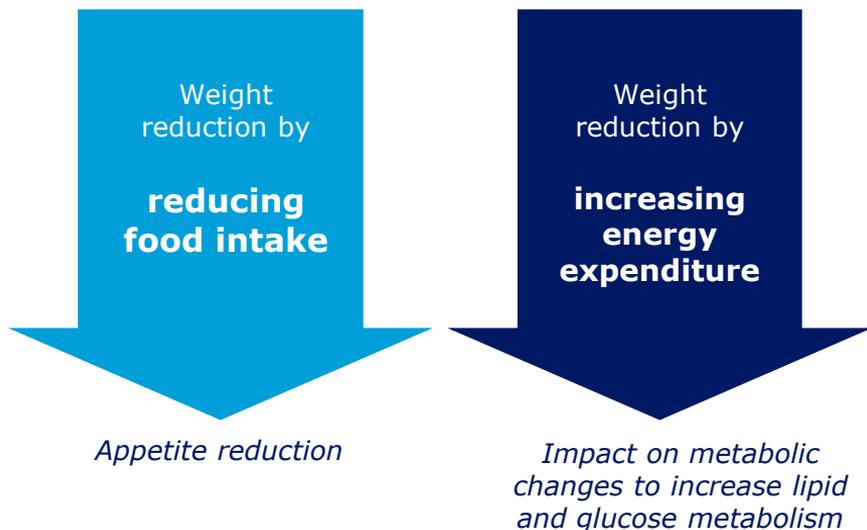
AOM: Anti-obesity medication; TRx SU Volume
Source: IQVIA NPA moving annual total through June 2018; NSP moving annual total through May 2018

Novo Nordisk is investing in overcoming the barriers preventing effective obesity care

	Current state	Key initiatives
Mindset	Acute weight loss focus with Saxenda® stay-time ~5 months	Advocate for chronic treatment through partnerships
Few prescribers engaged	Less than 3,000 physicians write ≥10 AOM prescriptions per month	Launch obesity educator programme
Limited patient access	Only 2 in 5 of ~95 million adults with obesity have access to reimbursed medication	Obtain Medicare coverage through support of "Treat and Reduce Obesity Act"

The obesity pipeline consists of projects addressing both appetite reduction and energy expenditure

How to address obesity from a medical perspective



Novo Nordisk obesity products and pipeline

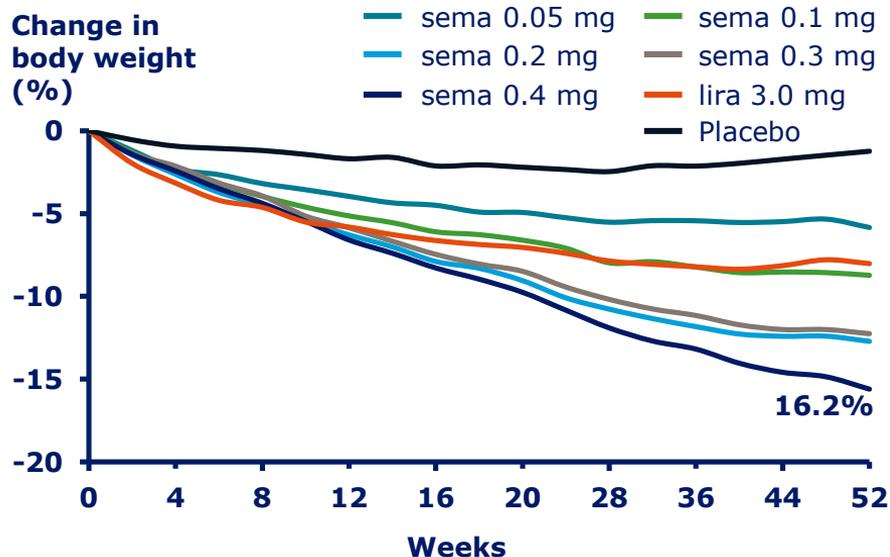
Projects:	Status:	2018 expected:
Saxenda®	Launched	
semaglutide – QW GLP-1	Phase 2	→ Phase 3
G530L – glucagon analogue	Discontinued	
AM833 – amylin analogue	Phase 1b	→ Phase 2 ready
PYY1562 – PYY analogue	Phase 1b	→ Phase 1b ¹
NN9499 – FGF21 obesity	Discontinued	
NN9277 – GG-co-agonist	Phase 1a	→ Phase 1b
NN9423 – Tri-agonist 1706	Phase 1a	→ Phase 1b

■ Appetite reduction
 ■ Energy expenditure
 ■ ■ Appetite reduction and energy expenditure

¹ Phase 1b completed with monotherapy, phase 1b in combination with semaglutide planned for 2018
 Phase 1a: Single-dose trials; Phase 1b: Multiple-dose trials
 QW: Once-weekly

Semaglutide demonstrated unprecedented weight loss in phase 2 obesity trial

16.2% weight reduction with the highest semaglutide dose in phase 2 obesity trial



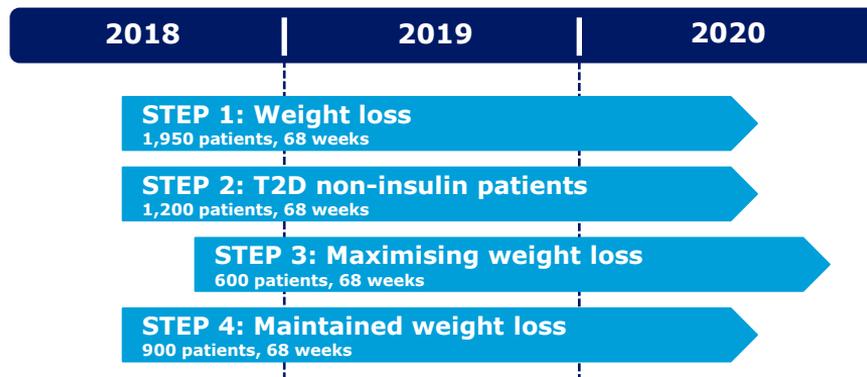
Note: All treatment arms are adjunct to diet and exercise
 QD: Once-daily; sema: Semaglutide; lira: Liraglutide

Key results and next steps

- Participants in the highest dose arms continued to lose weight over the duration of the trial as the response curve did not plateau in the highest dose arm
- Nearly two out of three patients experienced a weight loss of 10% or more with the highest dose of semaglutide
- 80% of patients completed the trial
- Once-daily semaglutide had a well-tolerated safety profile, with the most common adverse events being gastrointestinal
- Phase 3a programme STEP has been initiated and cardiovascular outcomes study SELECT to be initiated in 2018

Phase 3a programme STEP has been initiated and CV outcomes study SELECT to be initiated during 2018

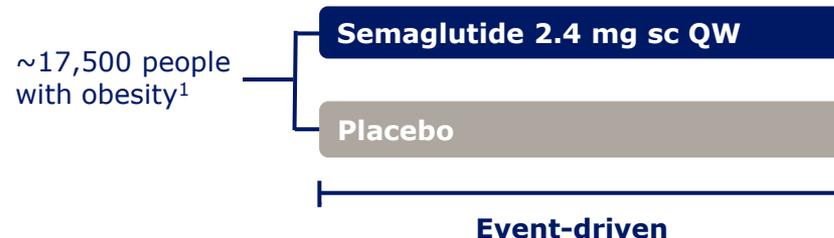
Semaglutide in obesity phase 3a programme, STEP, expected to include ~4,500 patients¹



Expected phase 3a programme completion: 2020

¹ Inclusion criteria: Male or female, age ≥18 years, BMI: ≥30 kg/m² or ≥27 kg/m² and ≥1 comorbidity
 Note: All treatment arms are adjunct to diet and exercise
 CV: Cardiovascular; T2D: Type 2 diabetes

Cardiovascular outcomes study, SELECT, planned for semaglutide in obesity



Completion: Pre-defined number of events

¹ Inclusion criteria: Male or female >45 years, BMI >27 kg/m², myocardial infarction or stroke >60 days, HbA_{1c} <6.5%
 QW: Once-weekly; sc: Subcutaneous

Biopharm and other chronic areas



LIAM CLEMENS
Liam has Haemophilia A
USA

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Biopharm R&D efforts reflect Novo Nordisk's commitment to satisfy unmet patient needs

Aim to develop subcutaneous haemophilia products and long-acting growth hormone

Pursue leadership in **HAEMOPHILIA**



Pursue subcutaneous delivery of long-acting coagulation factors and bypassing agents

Strengthen leadership in **GROWTH DISORDERS**



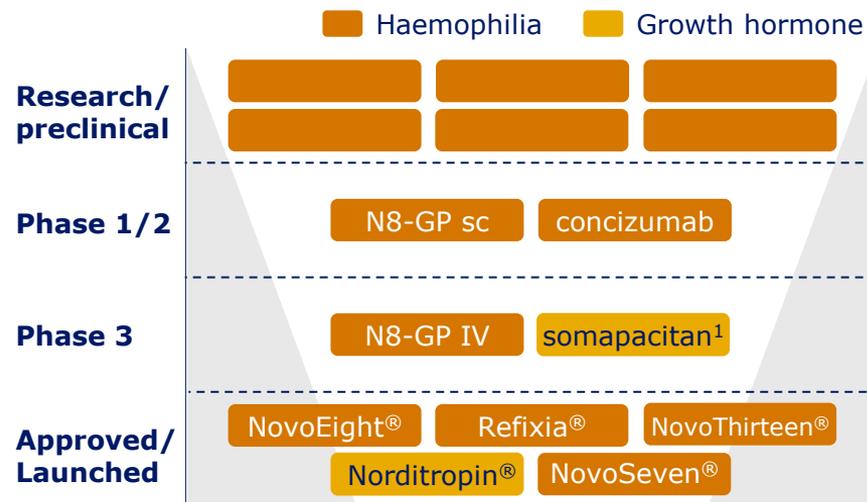
Bring long-acting growth hormone somapacitan to market and expand indications

Pursue **bolt-on opportunities**



Identify bolt-on acquisition or in-licensing opportunities in adjacent disease area

Novo Nordisk Biopharm portfolio

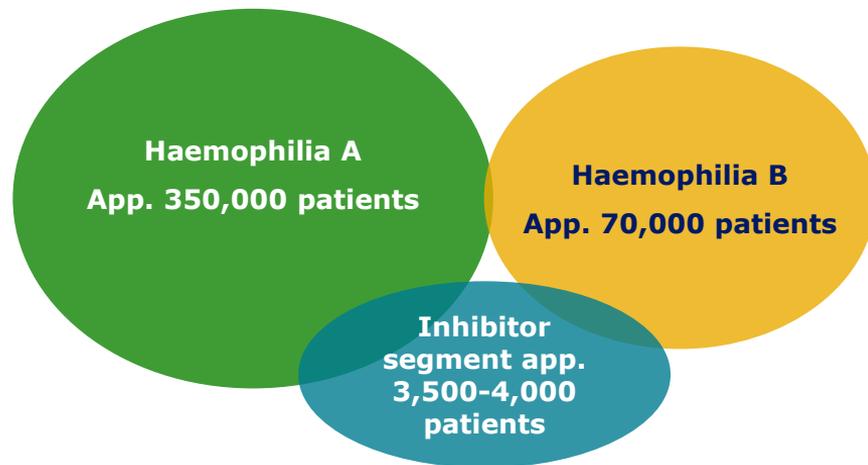


¹ Somapacitan is currently in phase 3 for adult growth hormone deficiency and phase 2 for growth hormone deficiency in children

Note: NovoThirteen® and Refixia® are the brand names in the majority of countries, whereas these products are marketed as TRETEN® and Rebyn® respectively in the US
sc: Subcutaneous; IV: Intravenous

Haemophilia is a rare disease with severe unmet medical needs

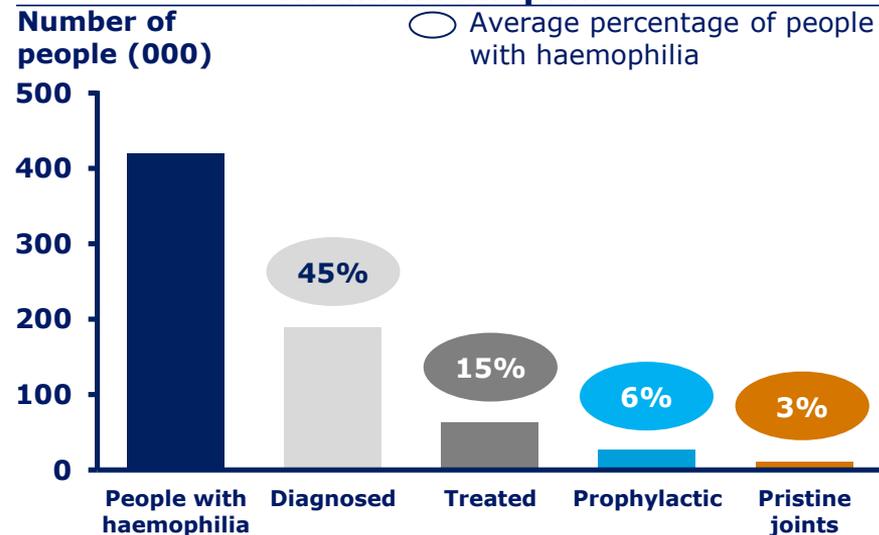
Number of people with haemophilia A and B and haemophilia with inhibitors



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

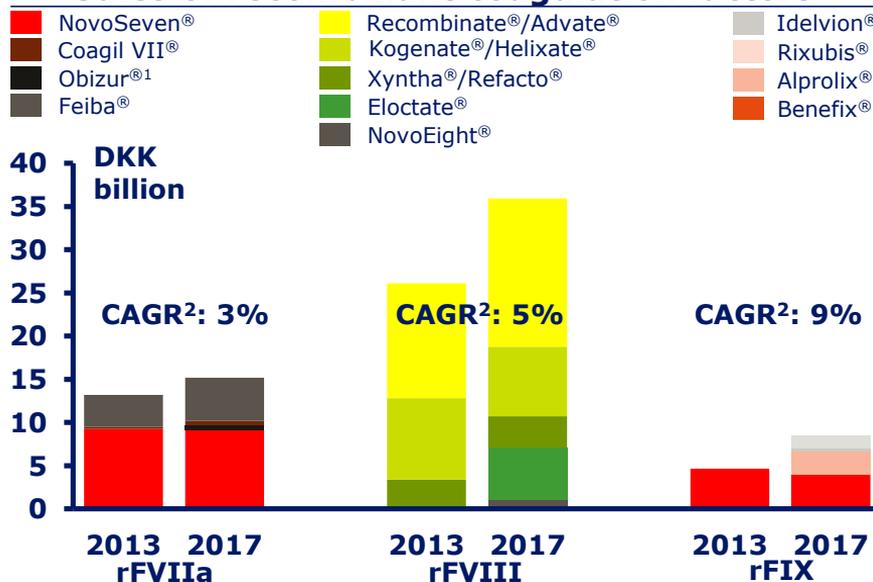
Low diagnosis and treatment rates within haemophilia



Source: World Federation of Haemophilia – Annual Global Survey 2016

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

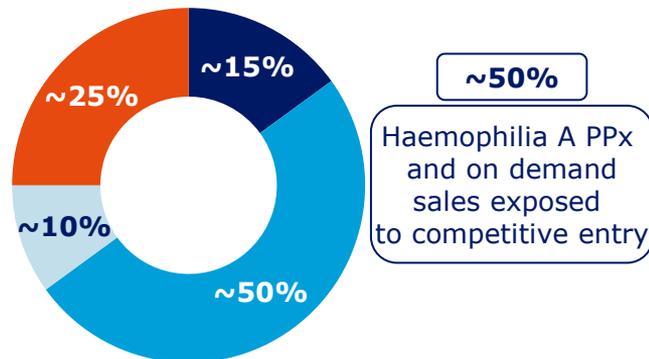
Novo Nordisk compound	Status	Strategic position
NovoSeven®	Launched	Maintain market leadership
NovoEight®	Launched	Establish presence in a competitive market place
N8-GP	Submitted ³	Contribute to market conversion
Refixia®/ Rebinyn®	Approved ⁴	Contribute to new treatment paradigm
NovoThirteen®	Launched	Launch first recombinant product

³ Submitted in the USA and the EU in Q1 2018

⁴ Refixia® is the brand name for N9-GP in the EU and Japan, and Rebinyn® is the brand name in the US

~50% of historic NovoSeven® sales exposed to competition, but opportunities remain in other indications

Estimated NovoSeven® sales by indication¹



NovoSeven® sales of DKK 9.2 billion³

¹ Based on internal Novo Nordisk estimate

² Other indications include areas like acquired haemophilia, Glanzmann's thrombastenia and congenital FVII deficiency

³ Reported sales for full year 2017

CHwI: Congenital haemophilia with inhibitors; PPx: Prophylaxis; A&B: Haemophilia A and B

Opportunities and challenges for NovoSeven® franchise

Challenge

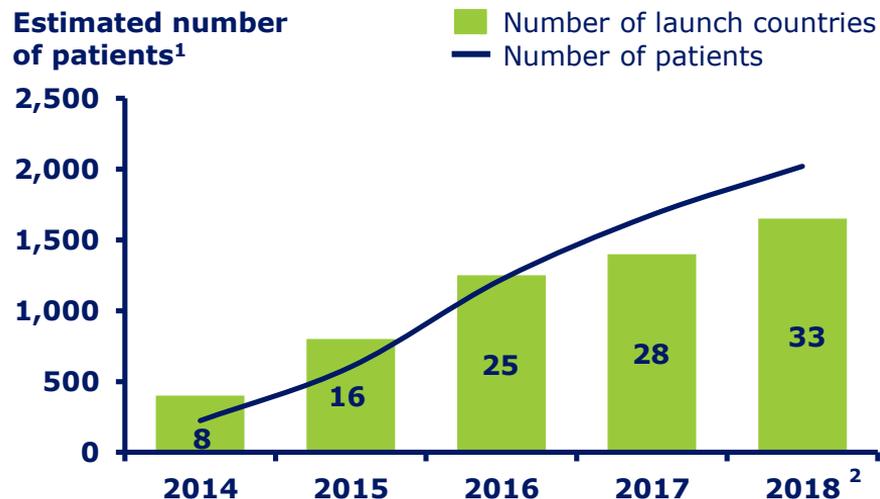
- Roche's Emicizumab launched recently, leading to intensified competition in the segment for haemophilia A with inhibitors

Opportunities

- Maintain position as preferred agent for all bleeds including breakthrough bleeds for patients on prophylactic treatment
- Improving diagnosis and treatment of select indications outside of haemophilia A with inhibitors with special focus on acquired haemophilia
- Drive development of NovoSeven® franchise in underdeveloped Chinese market following inclusion on National Drug Reimbursement List

NovoEight® volumes continue to grow despite increasing penetration of long-acting FVIII products

NovoEight® roll-out continues and the number of patients has steadily increased



¹ Novo Nordisk estimated accumulated patient number

² Novo Nordisk estimated accumulated patient number as of March 2018

FVIII: Coagulation factor VIII

NovoEight® has potential to increase volume share in select segments and markets

Competitive positioning for NovoEight®

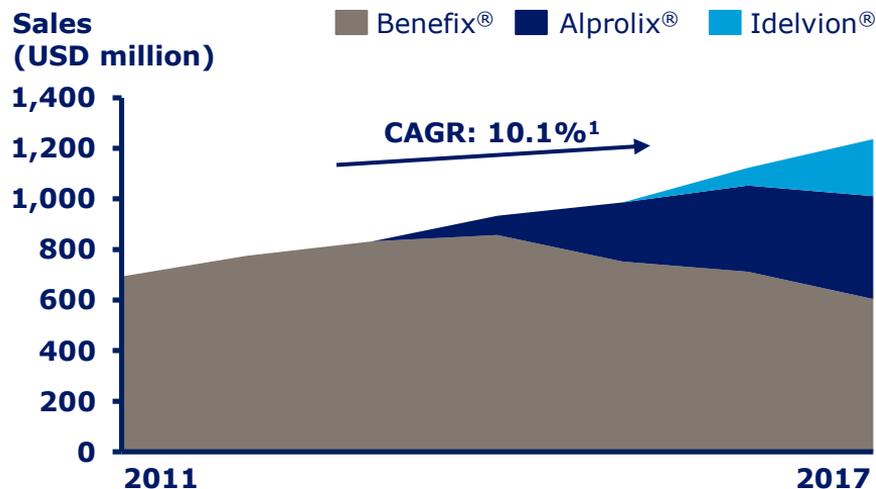
- Temperature stability at high room temperature and best-in-class portability
- Uptake driven by Novo Nordisk's strong customer focus and company recognition within the haemophilia community
- Continued volume growth especially in less mature markets with tender opportunities, despite increasing penetration of long-acting FVIII products

Next generation

- Global roll-out of NovoEight® and N8-GP to pave the way for subcutaneous N8-GP

Strong growth among long-acting haemophilia B products as Refixia[®]/Rebinyn[®] is set for launch in the EU and the USA

Reported recombinant FIX sales



Refixia[®]/Rebinyn[®] launched in first countries

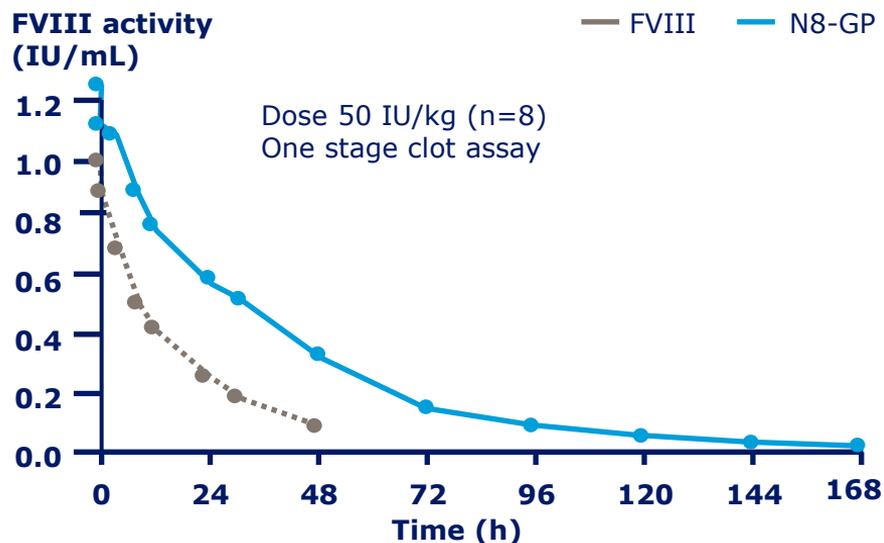
- Launched in the first EU countries in 2017
- Launched in the USA in February 2018
- Approved in Japan in July 2018
- Refixia[®]/Rebinyn[®] offers a unique clinical profile that brings factor levels into the non-haemophilia range for adults and adolescents
- Dialogue ongoing with the FDA and EMA to establish path forward to obtain routine prophylaxis indication in the USA and complete paediatric indication in Europe to include children younger than 12 years old

¹ CAGR for 6-year period
 FIX: Coagulation factor IX
 Source: Company reports (Does not include Rixubis[®] as sales are not reported separately)

FDA: US Food and Drug Administration; EMA: European Medicines Agency
 rFIX: Recombinant coagulation factor IX

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 days¹
- Patients in both treatment arms had a median ABR of 0

Next steps

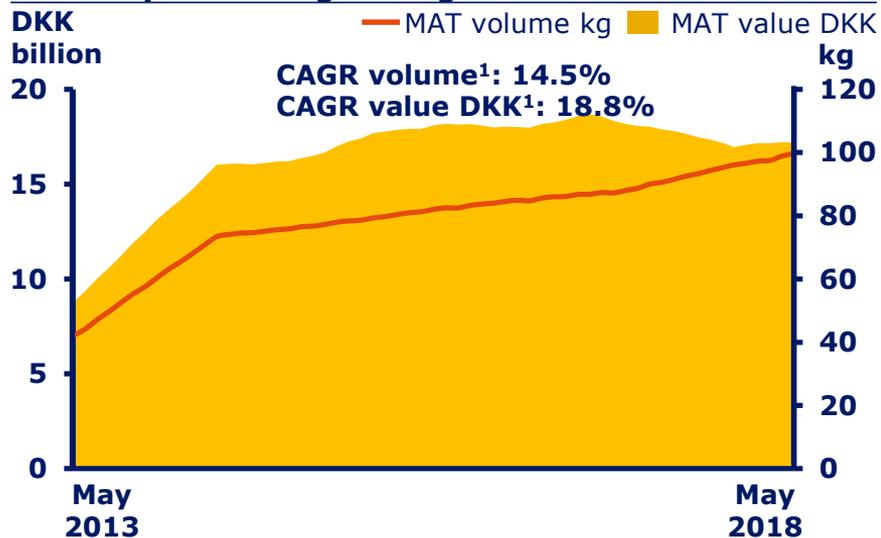
- Expansion of production capacity; US/EU submission Q1 2018

PK: Pharmacokinetic; ABR: Annualised bleeding rate; IU: International unit

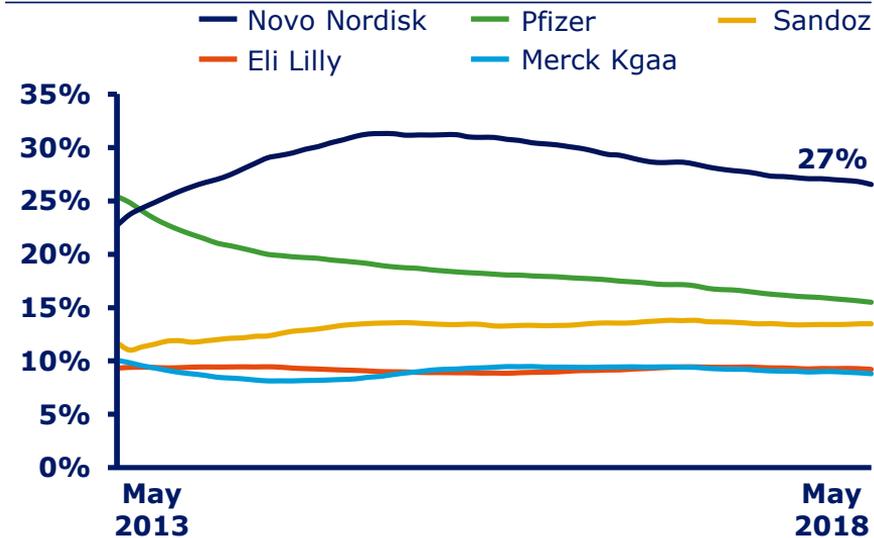
¹ Prophylaxis 75 IU/kg every 7 days (n=38) or prophylaxis 50 IU/kg every 4 days (n=17)

Novo Nordisk maintains leadership within growth disorder

Development in global growth disorder market



Growth disorder volume market share



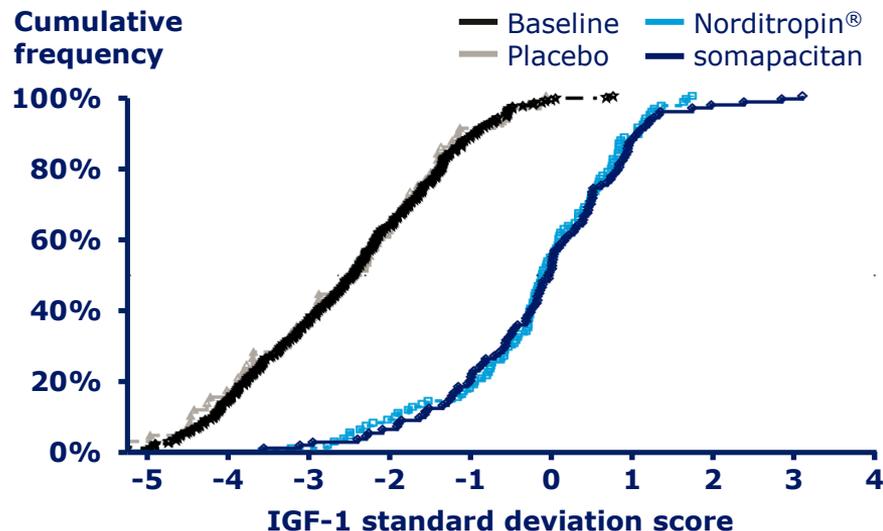
¹ CAGR for 5-year period

Source: IQVIA monthly MAT May, 2018 volume figures and value (DKK) figures

Source: IQVIA monthly MAT May, 2018 volume figures

Phase 3 extension trial in adults and phase 2 trial in children for once-weekly somapacitan to conclude in 2018

Somapacitan IGF-1 levels similar to daily Norditropin® in REAL 1 phase 3 AGHD trial



Phase 3a AGHD trial and phase 2 GHD successfully completed

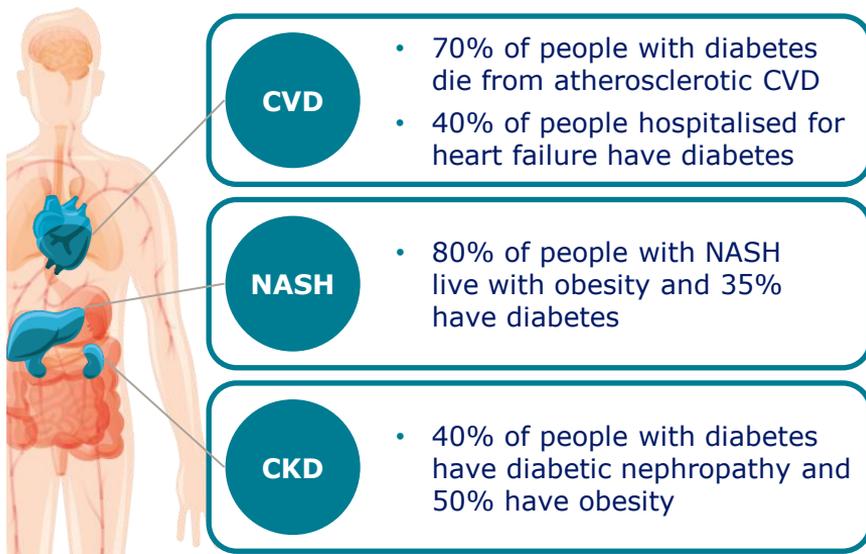


IGF-1: Insulin-like growth factor 1; AGHD: Adult growth hormone deficiency
Source: Novo Nordisk data on file; REAL 1, NN8640-4054

Note: Filing for first indication (AGHD) expected in 2018
GHD: Growth hormone deficiency; SGA: Small for gestational age

Other serious chronic diseases

Serious chronic diseases are often associated with diabetes and obesity



CVD: Cardiovascular disease; NASH: Non-alcoholic Steatohepatitis; CKD: Chronic kidney disease
Source: Diabetes Care 2005 Jan; 28(1): 164-176

New therapeutic areas represent patient populations with high unmet medical needs

	Estimated patients	Number of related deaths
CVD	~420 million	~20 million annually

	Estimated patients	Diagnosis rate
NASH	~15-40 million ¹	~20% ²
CKD	~200 million	~20%

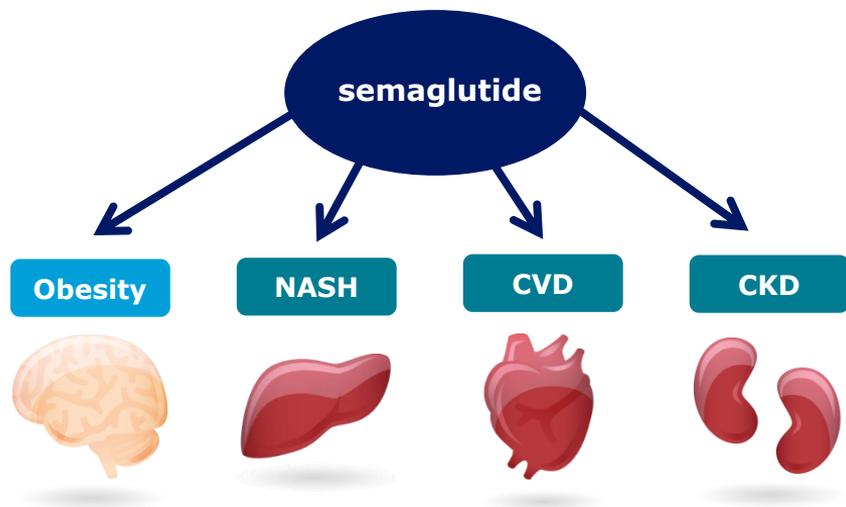
¹ Internal forecast comprising US, Europe and Japan

² Diagnosis rate is considered a major uncertainty to the forecast

Source: Abera SF et al. Global, Regional, and National Burden of Cardiovascular Diseases for 10 Causes, 1990 to 2015, 2017; Heart Disease and Stroke Statistics, American Heart Association, 2017; Williams CD et al. Prevalence of nonalcoholic fatty liver disease and nonalcoholic steatohepatitis among a largely middle-aged population utilizing ultrasound and liver biopsy, 2011; Addressing the global burden of chronic kidney disease through clinical and translational research, 2014

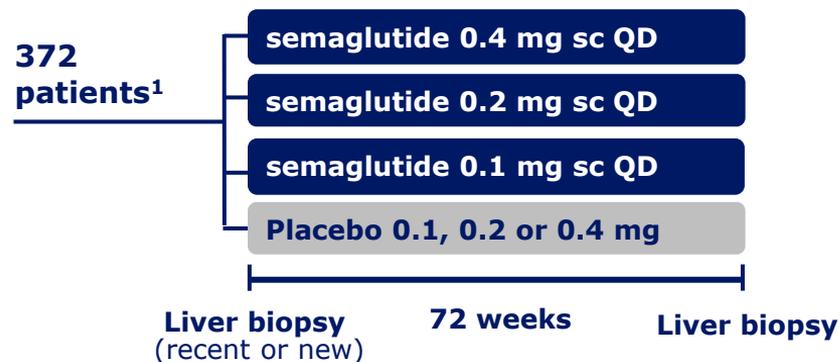
Trials in obesity and other serious chronic disease areas building on the semaglutide molecule

Planned or ongoing trials with semaglutide addressing other serious chronic diseases



CVD: Cardiovascular disease; NASH: Non-alcoholic steatohepatitis; CKD: Chronic kidney disease

Ongoing phase 2 trial with daily semaglutide vs placebo in patients with NASH



Next steps:

- Phase 2 trial expected to complete 2020

¹ Inclusion criteria: Histological confirmation of NASH, BMI 25–45 kg/m², NASH fibrosis stage 2 or 3, Histological NAFLD Activity Score ≥ 4
mg: Milligram; sc: Subcutaneous; QD: Once-daily; MR: Magnetic resonance;
NAFLD: Non-alcoholic fatty liver disease

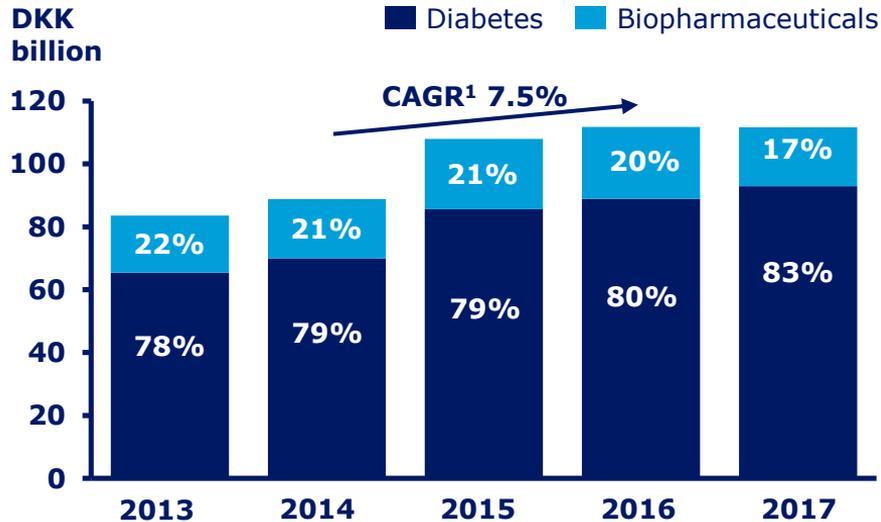
Financials



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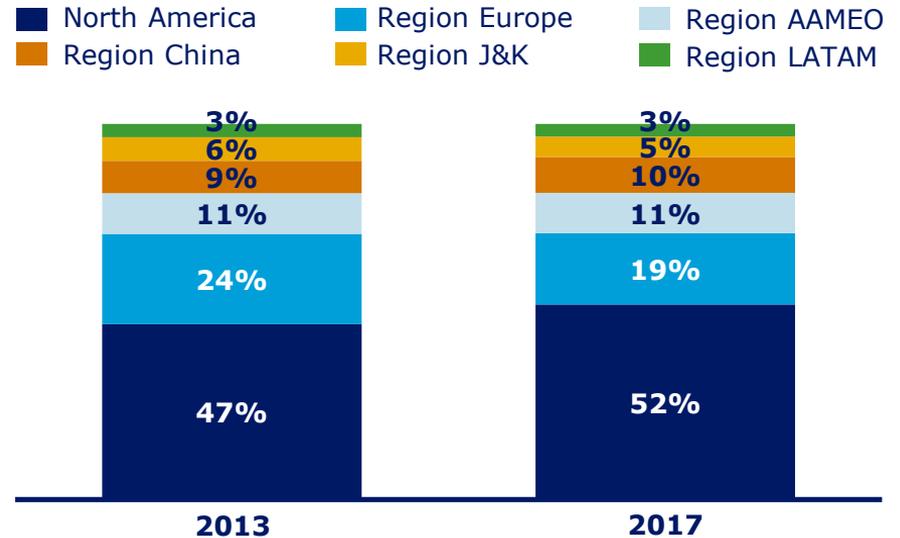
Solid sales growth driven by diabetes care

Reported annual sales 2013-2017



¹ CAGR for 5-year period

Reported annual sales split by region



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

Victoza® accounts for 22% of total sales in first six months of 2018

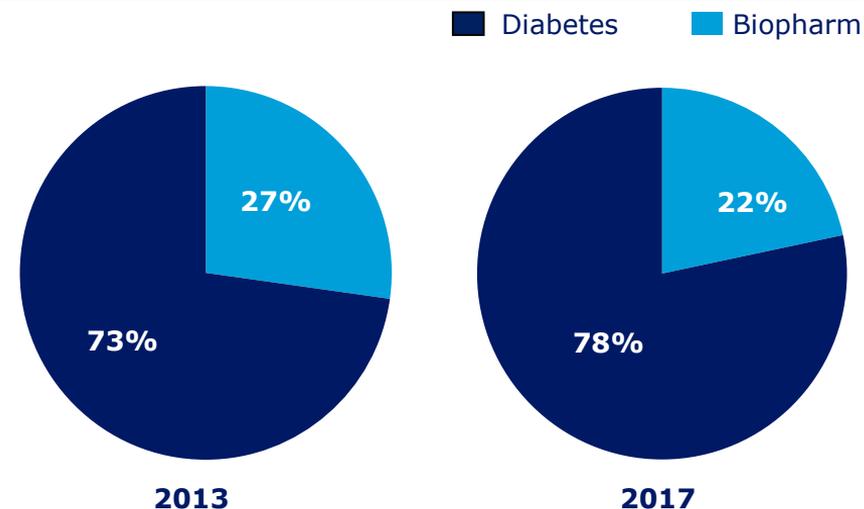
Reported currencies	Sales Q2 2018 (mDKK)	Sales split	Sales full H1 2018 (mDKK)	Sales split
Tresiba®	1,952	7%	3,707	7%
Levemir®	3,023	11%	5,803	11%
NovoRapid®	4,799	18%	9,494	17%
NovoMix®	2,408	9%	4,909	9%
Victoza®	5,729	21%	11,718	22%
Ozempic®	195	1%	264	0%
Saxenda®	883	3%	1,653	3%
Diabetes care and Obesity¹	23,033	84%	45,641	84%
NovoSeven®	1,886	7%	4,040	7%
Norditropin®	1,703	6%	3,184	6%
Biopharmaceuticals¹	4,374	16%	8,696	16%
Total¹	27,407	100%	54,337	100%

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

Solid operating profit growth driven by diabetes



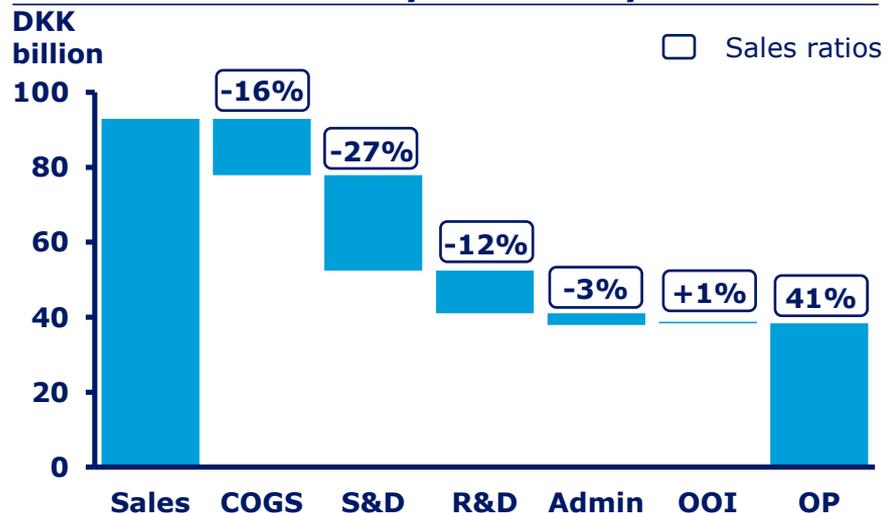
Operating profit therapy split



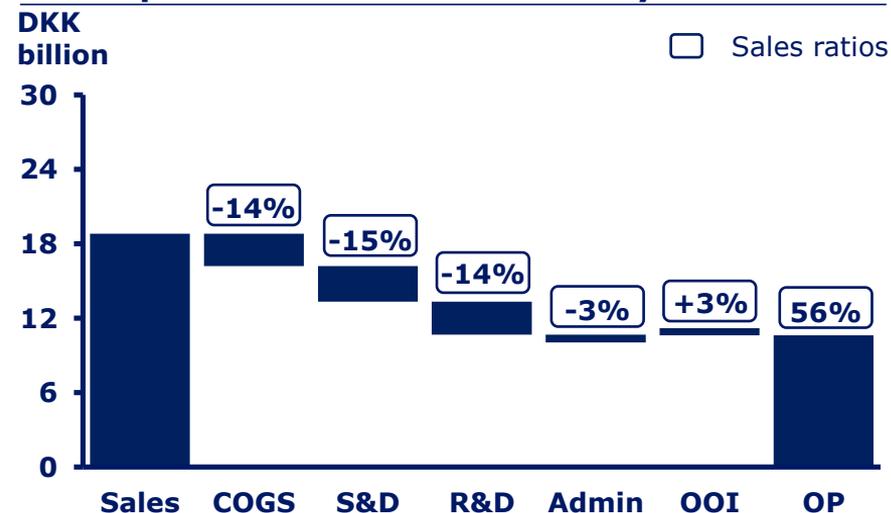
* Adjusted for the partial divestment of NNIT A/S and inflammatory out-licensing in 2015

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

Diabetes & Obesity P&L – full year 2017



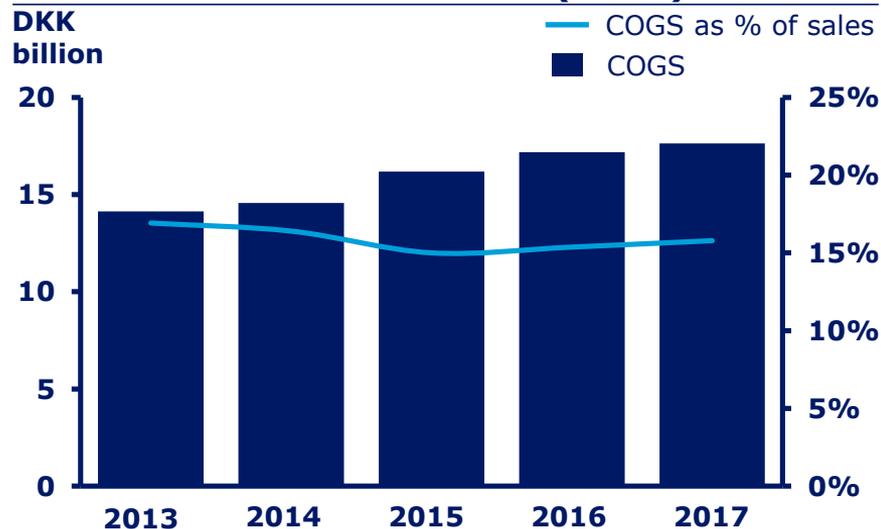
Biopharmaceuticals P&L – full year 2017



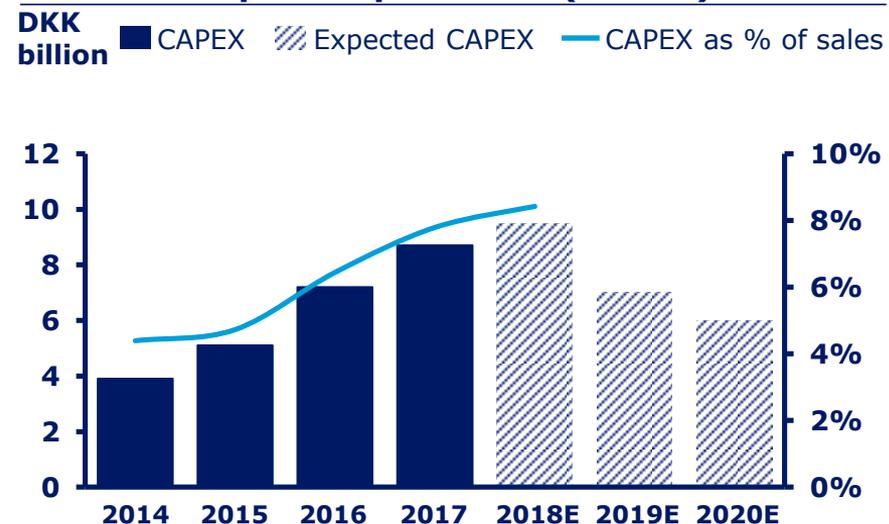
P&L: Profit and Loss; COGS: Cost of goods sold; OOI: Other operating income; OP: Operating profit
S&D: Sales and distribution cost; R&D: research and development cost; Admin: administrative cost

Stable COGS level as % of sales and increasing CAPEX level

Cost of Goods Sold (COGS)



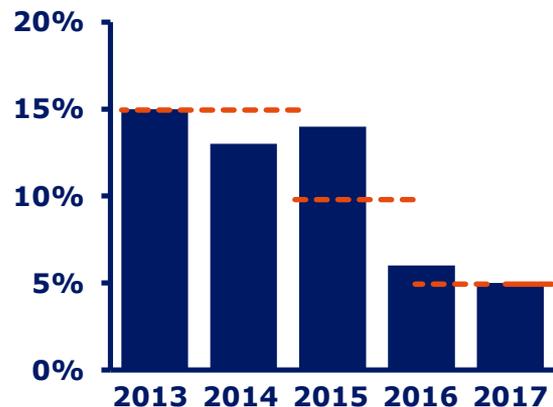
Capital Expenditure (CAPEX)



Long-term financial targets support focus on profitable growth, capital allocation and cash conversion

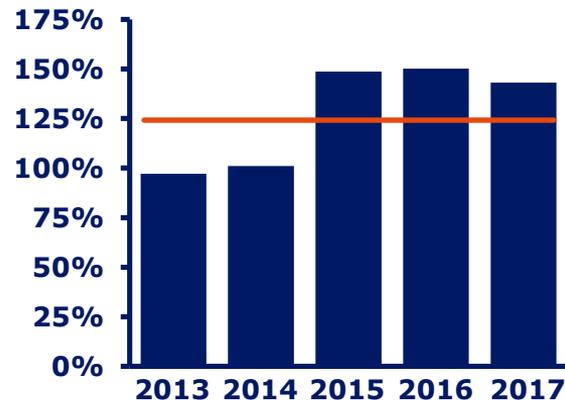
Operating profit growth in local currencies

- Current long-term financial target¹
- - - Previous long-term financial targets



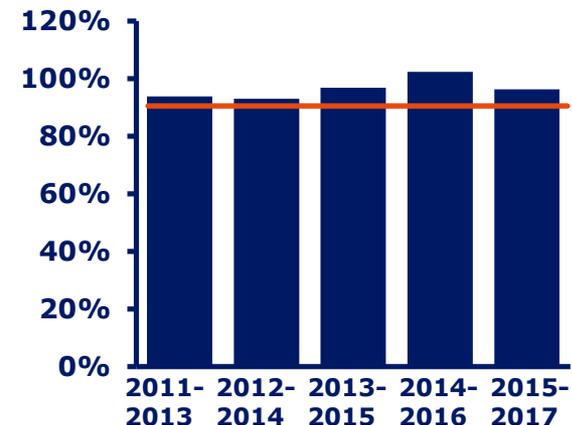
Operating profit after tax to net operating assets

- Current long-term financial target¹



Cash to earnings (three-year average)

- Current long-term financial target¹

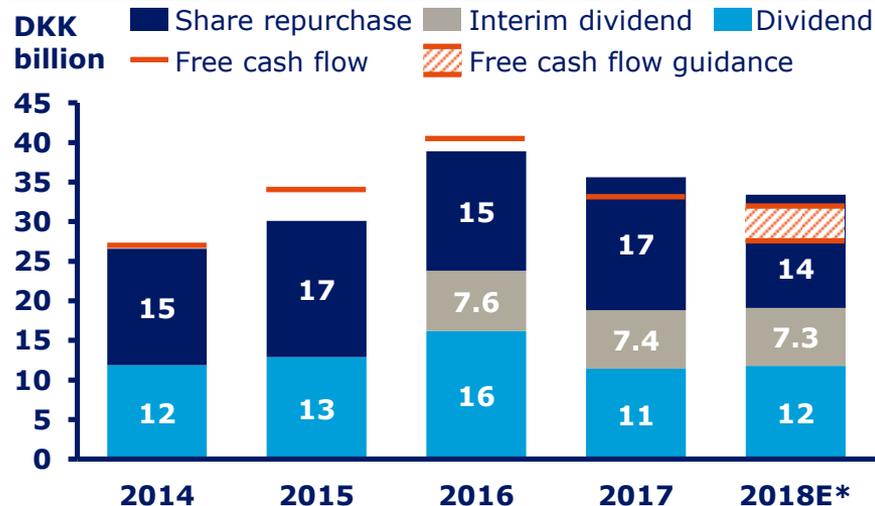


¹ Long-term target established in connection with the Q3 2016 report. The target of an average operating profit growth of 5% is an average for the period of 4-5 years, with 2015 as the base year. Operating profit after tax to net operating assets target unchanged at 125% and Cash to earnings (three year average) target unchanged at 90%

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

Cash return to shareholders in 2018

Annual cash return to shareholders



Cash return priorities

- Share repurchase programme of up to DKK 14 billion to be executed during the coming 12 months
- Total programme may be reduced in size if significant product in-licensing or bolt-on acquisition opportunities arise during 2018
- For 2017, the total dividend increased to DKK 7.85 per share of DKK 0.20 (including interim dividend of DKK 3.00 paid in August 2017)
- Dividend distributed twice a year as interim dividend in August and final dividend in March the following year
- For 2018, the interim dividend of DKK 3.00 will be paid in August 2018

Note: For 2018 expected free cash flow is DKK 27-32 billion. Share repurchase programmes run for 12 months starting February until end January of the following year.

Currency impact on Novo Nordisk's P/L

Operational currency impact

- All movements in currencies will directly impact the individual reported functional lines of the Novo Nordisk's profit and loss statement
- The currency effect on e.g. operating profit growth is the difference between the reported and the local operating profit growth
- Key currencies account for around 75-85% of the total currency exposure
- No hedging effects are included in the operating profit

PROFIT AND LOSS	2017	2016
<i>DKK million</i>		
Net sales	111,696	111,780
Gross profit	94,064	94,597
<i>Gross margin</i>	84.2%	84.6%
Sales and distribution costs	28,340	28,377
<i>Percentage of sales</i>	25.4%	25.4%
Research and development costs	14,014	14,563
<i>Percentage of sales</i>	12.5%	13.0%
Administrative costs	3,784	3,962
<i>Percentage of sales</i>	3.4%	3.5%
Other operating income, net <i>- Non-recurring income from the partial divestment of NNIT A/S</i>	1,041	737
Operating profit	48,967	48,432
<i>Operating margin</i>	43.8%	43.3%
<i>Operating margin adjusted for the partial divestment of NNIT A/S</i>	43.8%	43.3%
Net financials	(287)	(634)
Profit before income taxes	48,680	47,798
Income taxes	10,550	9,873
<i>Effective tax rate</i>	21.7%	20.7%
Net profit	38,130	37,925
<i>Net profit margin</i>	34.1%	33.9%

Financial currency impact

- All gain/losses from hedging contracts are included in the financial income/expenses
- All key currencies are hedged:
 - USD 11 months
 - CNY 6 months
 - JPY 12 months
 - GBP 11 months
 - CAD 10 months
- Hedging is primarily performed with the use of forward contracts
- Net financials includes hedging gain/loss including the cost of hedging (interest differential) and the effect from currency gain/losses of balances in non-hedged currencies.

Currency impact on operating profit

Operational currency impact

Operational currency impact in 2017

- The operational currency impact is the difference between e.g. operating profit growth in reported currency (Danish kroner) and operating profit growth in local currencies
- In 2017 the operating profit was:
 - In Danish kroner: 48,967 million
 - In local currencies: 50,737 million
 - Currency impact: **-1,770 million**

Estimation of operational currency impact from key currencies

- Novo Nordisk guides on currency sensitivity of key currencies in quarterly announcements
- Sensitivity table gives an indication of gain/loss of a 5% immediate change in exchange rates compared to exchange rates on announcement day
- Key currencies account for around 75-85% of the currency exposure

Estimation of operational currency impact from other currencies

- Significant changes in other currencies will additionally impact the operational currency in exposure
- In 2017, the depreciation of the ARS and TRY had an additional negative impact on the operational currency exposure.

Key currencies	Avg FX rate 2016	Avg FX rate 2017	%-change	Yearly impact of 5% change (mDKK)	Estimated impact from key currencies
USD	6.733	6.602	-1.9%	2,100	-816
CNY	1.013	0.976	-3.7%	320	-235
JPY	6.200	5.884	-5.1%	200	-204
GBP	9.121	8.496	-6.9%	90	-123
CAD	5.081	5.084	0.0%	80	1
Total estimated currency impact from key currencies in 2017					-1.378
ARS	0.5	0.4	-20.0%		
TRY	223	181	-18.8%		
INR	10.0	10.1	1.0%		
RUB	10.1	11.3	11.9%		
BRL	195	207	6.2%		
Total currency impact from other currencies in 2017 (residual)					-392
Total currency impact in 2017					-1,770

¹ Yearly impact on operating profit for next 12 month. Estimates reflected in Annual Report 2017

Key currency development 2017 vs 2018

Average FX rates ¹	Q1 2017	Q1 2018	Q1 Change	Q2 2017	Q2 2018	Q2 Change	Q3 2017	Q3 ² 2018	Q3 Change	Q4 2017	Q4 2018	Q4 Change	FY 2017	FY 2018 ³	FY Change
USD/DKK	698	606	-13%	676	625	-8%	633	640	1%	632	642	2%	660	628	-5%
JPY/DKK	6.1	5.6	-8%	6.1	5.7	-7%	5.7	5.7	0%	5.6	5.8	4%	5.9	5.7	-3%
GBP/DKK	865	843	-3%	864	850	-2%	829	838	1%	839	837	0%	849	842	-1%
CNY/DKK	101	95	-6%	98	98	0%	95	94	-1%	96	94	-2%	98	95	-3%
CAD/DKK	527	480	-9%	502	484	-4%	505	490	-3%	498	492	-1%	508	487	-4%

Note: Spot rates as per 2 August 2018

¹DKK per 100

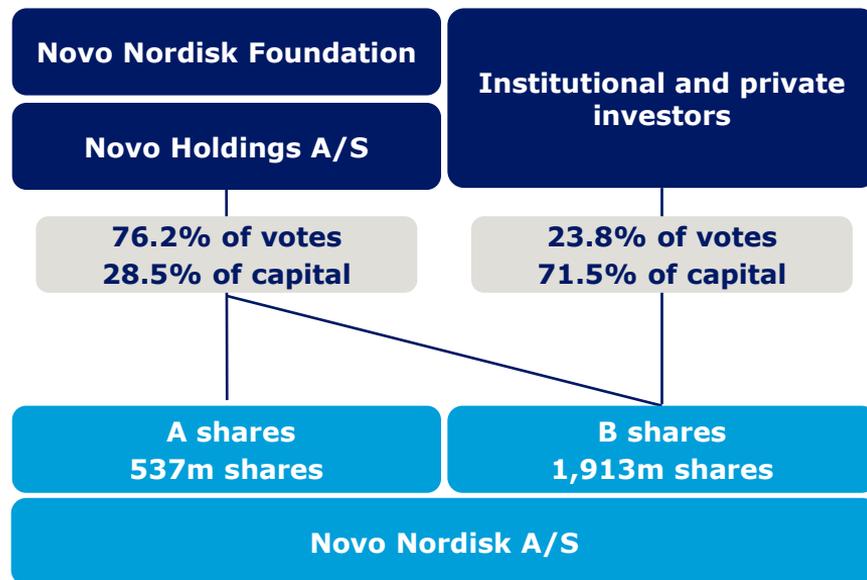
²Q3 average is calculated as realised exchange rates from 1 July 2018 to 2 August 2018 + current spot rate applied from 2 August 2018 to 30 September 2018

³FY 2018 average is calculated as realised exchange rates from 1 January 2018 to 2 August 2018 + spot rate applied from 2 August 2018 to 31 December 2018

Stable ownership structure

- secured through A and B-share structure

Share structure



Note: As of 24 April 2018. 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

Sustainability



changing
diabetes®

1. Novo Nordisk Way and Triple Bottom line 113

2. Employee Health and Safety 114

3. Business Environment 115

4. Novo Nordisk on Natural Resources 116

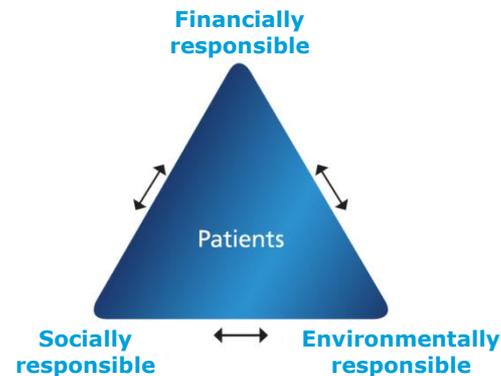
Sustainable business

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: *Driving change to defeat diabetes and other serious chronic diseases*

The Triple Bottom Line Business Principle



The **Triple Bottom Line Principle**, anchored in the **Articles of Association**, 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

Novo Nordisk offers a healthy, engaging and inclusive workplace with development opportunities for employees

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



~43,100 FTE employees



90% sustainable engagement score



11.0% employee turnover



2.7 accidents with absence per million working hours

Novo Nordisk is committed to building a diverse and inclusive organisation



Note: Full social statements to be found in Novo Nordisk Annual Report 2017

¹ All appointments to management positions, incl. internal promotions and external hires, ex. NNIT

Shaping and adapting to conditions in the business environment

Enhancing access to affordable, high quality insulin is a key priority



5 million people with diabetes treated at cost below USD 0.16 per day



6 product recalls
0 failed inspections



103 million DKK donations to World Diabetes Foundation and Novo Nordisk Haemophilia Foundation



27.7 million patients reached with diabetes care products

Note: Full social statements to be found in Novo Nordisk Annual Report 2017

Cities Changing Diabetes works to bend the curve on urban diabetes



Steno Diabetes Center
Copenhagen



C40
CITIES
CLIMATE LEADERSHIP GROUP

- Map the challenge in cities across the world with 11 cities enrolled
- Share learnings and best practices on how to bend the diabetes curve, by preventing rise in obesity
- Drive action plans with local partners and experts to act as a catalyst for meaningful action
- Initiate new cross-sector partnerships, eg on climate and health

Novo Nordisk prioritises minimisation in use of non-depletable or scarce natural resources

Least possible use of resources, lower emissions and less waste are priorities



Slight decrease in water and energy consumption for production since 2016



93% of water consumption is in areas not subject to water stress



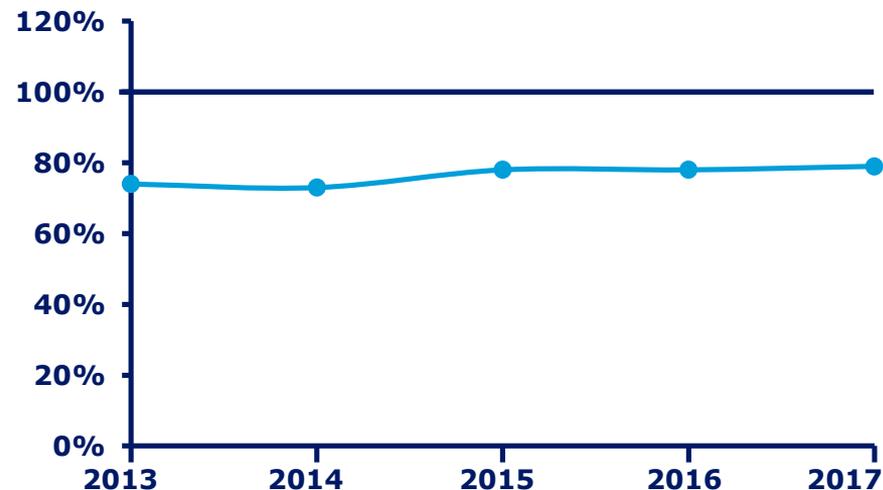
2% decrease in CO₂ emissions from production since 2016



96% of total waste is recycled, used for biogas or recovered as energy for heat and power production

On track to have all production sites run 100% on renewable power by 2020

— Target ● Realised



Note: Full social statements to be found in Novo Nordisk Annual Report 2017