

VICKI MOONEY AND HER DAUGHTER MIA  
Vicki is living with obesity  
Spain



# novo nordisk – a focused healthcare company

Investor presentation  
First quarter of 2019



# 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 2018 and Form 20-F, which were both filed with the SEC in February 2019 in continuation of the publication of the Annual Report 2018, 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 Novo Nordisk's results or the accuracy of forward-looking statements in this presentation, reference is made to the overview of risk factors in 'Risk management enables better decision-making' on pp 41-43 in the Annual Report 2018.

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

# Highlights – First quarter of 2019

## Sales update

**Sales increased by 9%** and by 4% at CER to **DKK 29.3 billion** driven by

- **International Operations** sales growth of **13%** and of 13% at CER
- **North America Operations** sales growth of **4%** and decline of 4% at CER
- Diabetes and Obesity combined sales growth of 10% and of 5% at CER. Diabetes and Obesity grew 4% and 51% at CER, respectively
- Sales of **Ozempic®** were 1,425 million Danish kroner and it has now been launched in 19 countries

## R&D events

**Oral semaglutide** filed in the USA, the EU and Canada for treatment of adults with type 2 diabetes

**Ozempic® and oral semaglutide** filed for CV risk reduction indication in the USA

Phase 2 trial initiated for **AM833** in people with overweight or obesity in March 2019

**Esperoct®** approved in the USA and endorsed by the EU CHMP

**Concizumab** granted Breakthrough Therapy Designation by the FDA for treatment of people with haemophilia B and inhibitors

## Financials & outlook

**Operating profit** increased by **14%** and by 8% at CER to **DKK 14.2 billion**

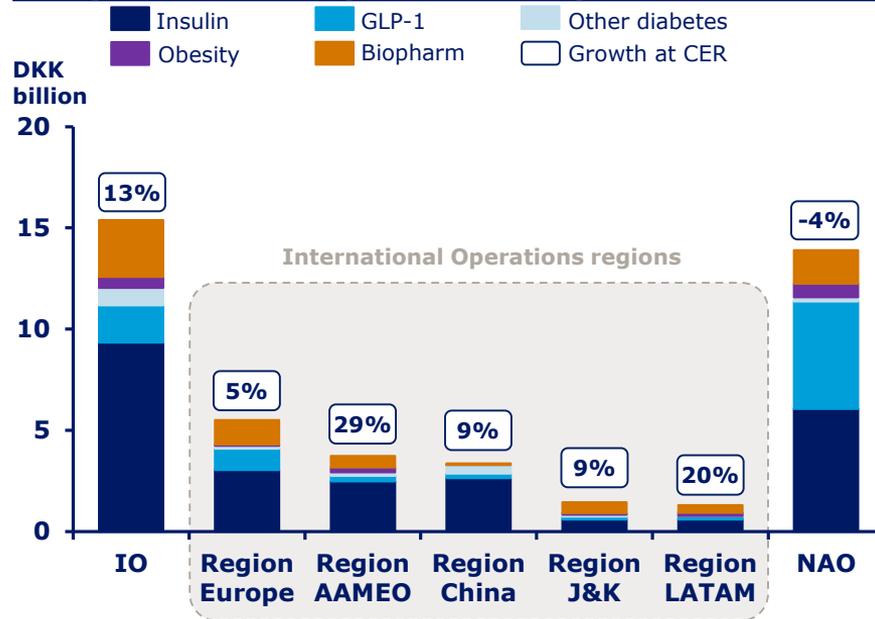
**Net profit** decreased by **3%** to **DKK 10.4 billion** and diluted earnings per share decreased by 1% to 4.36 DKK per share

**2019 financial outlook** unchanged with increased positive currency impact

- Sales growth still expected to be 2-5% at CER (reported: Now around 3%-points higher)
- Operating profit growth still expected to be 2-6% at CER (reported: Now 5%-points higher)

# Total sales growth of 4% driven by IO with 13% sales growth partly offset by 4% sales decline in NAO

## Reported sales split for first quarter of 2019



## Growth drivers for first quarter of 2019

**IO sales growth of 13% supported by all regions** with key growth drivers being Diabetes and Obesity. Sales in IO was positively impacted by timing of shipments.

### Regional growth drivers were:

- **Europe:** GLP-1 (+21%) and Insulin (+3%)
- **AAMEO:** Insulin (+30%) and Obesity (+149%)
- **China:** Insulin (+9%) and GLP-1 (+90%)
- **Japan & Korea:** Obesity sales and Biopharm (+9%)
- **Latin America:** Diabetes (+37%) and Obesity (+90%)

### North America Operations sales declined by 4% driven by the US partly offset by Canada.

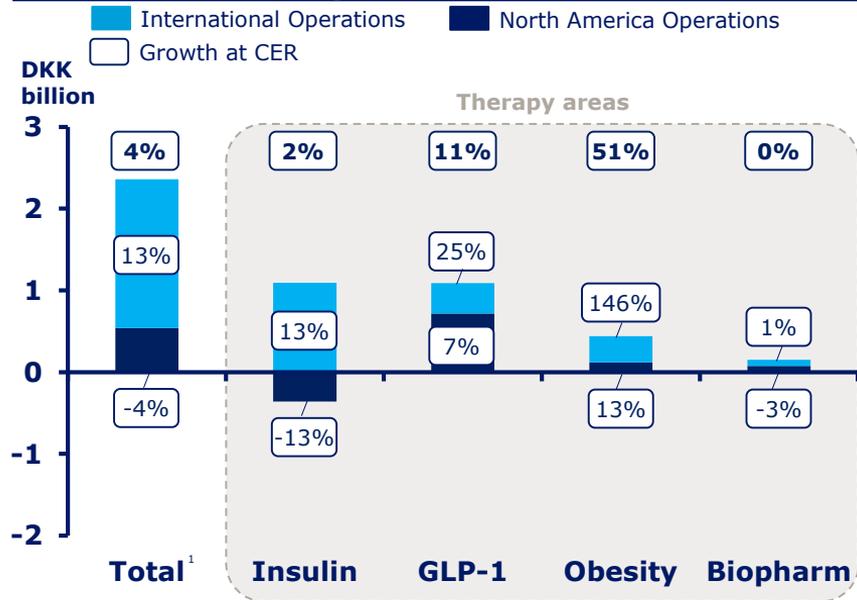
- GLP-1 and Obesity sales continue to drive growth offset by declining insulin sales
- US sales were flat when adjusting for supply chain destocking

CER: Constant exchange rates; IO: International Operations; NAO: North America Operations; LATAM: Latin America; AAMEO: Africa, Asia, Middle East & Oceania; J&K: Japan & Korea



# Total sales growth of 4% driven by diabetes and obesity sales growth of 5% and stable biopharm sales

## Added reported sales and growth per therapy area and operational units at CER



<sup>1</sup> "Other diabetes" is included in Total  
 CER: Constant exchange rates; IO: International Operations; NAO: North America Operations

## Growth drivers for first quarter of 2019

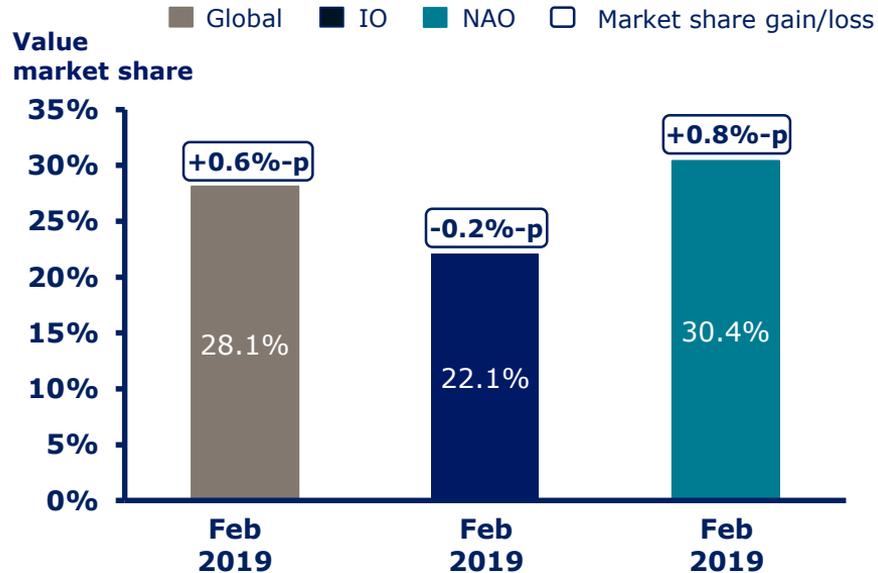
- Novo Nordisk expands **global diabetes value market** leadership by 0.6%-points to **28.1%**
- Global **insulin volume market share** increased to **46.7%** with IO expanding 0.3%-point to 49.4% and NAO expanding 1.0%-point to 40.2%
- Value share of GLP-1 segment of total diabetes market increased 3%-points to 15.3%. Novo Nordisk retains **GLP-1 market leadership** with **46.1%** value market share
- Obesity sales supported by the global roll-out of Saxenda®. **Saxenda®** has now been launched in **41 countries**
- Strong **commercial execution** in Biopharm drives a **stable sales development**, driven by new products mitigating NovoSeven® sales decline

Source: IQVIA monthly, Feb 2019



# Global diabetes market leadership strengthened to 28.1%, partly driven by insulin volume market share increase of 0.6%-point

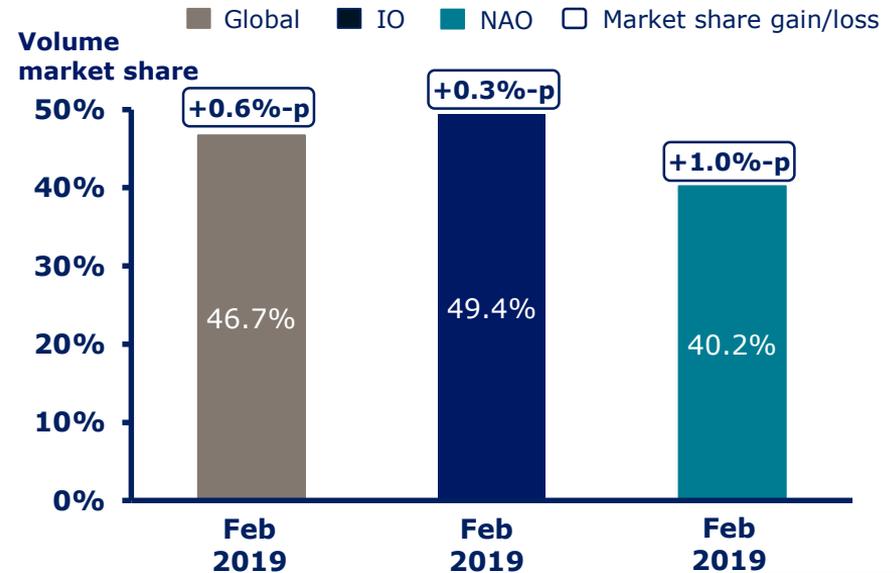
## Expanded global diabetes value market leadership by 0.6%-point to 28.1%



Source: IQVIA MAT, Feb 2019  
IO: International Operations; NAO: North America Operations

changing  
diabetes®

## Global insulin volume market share increased 0.6%-point to 46.7%

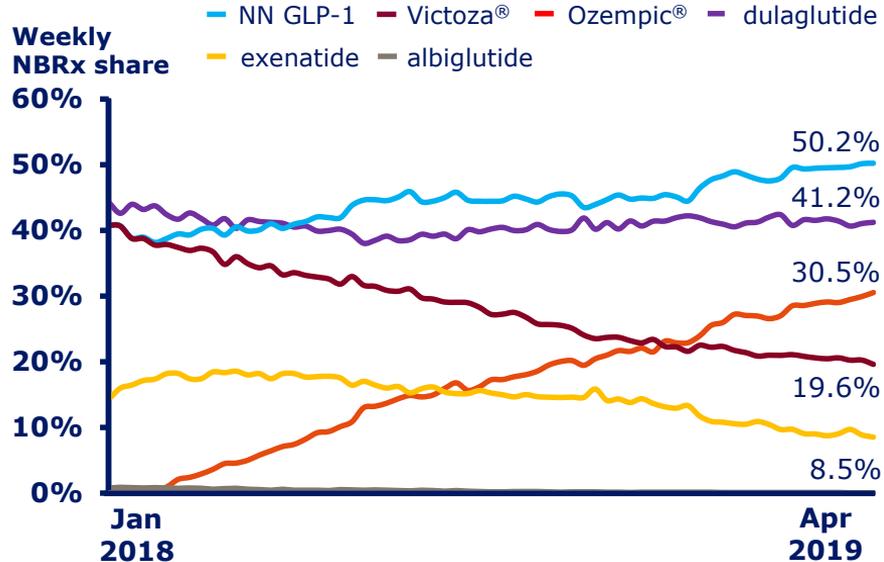


Source: IQVIA MAT, Feb 2019  
IO: International Operations; NAO: North America Operations



# Ozempic® now launched in 19 countries and off to a solid start across markets

## USA GLP-1 NBRx market share

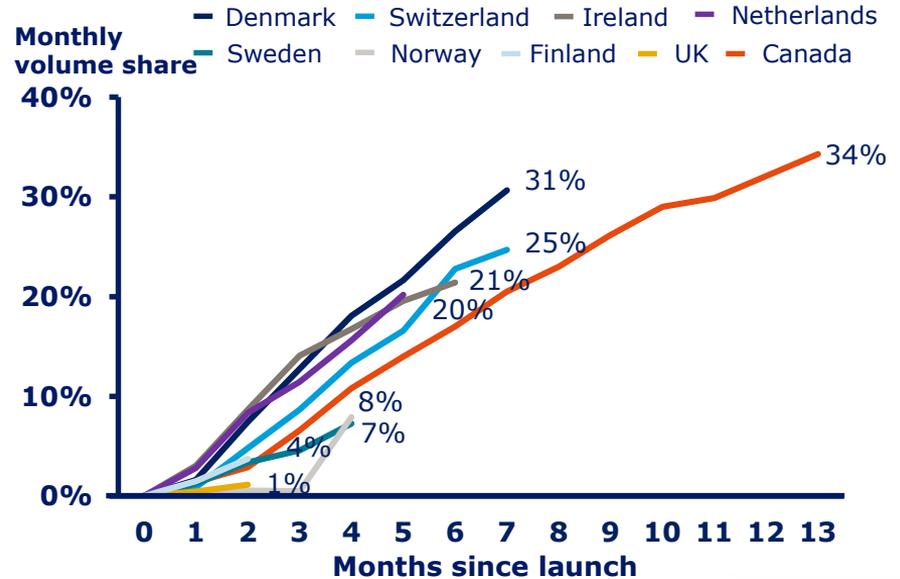


Source: NBRx-IQVIA LRx Weekly, week ending 14 Apr 2019

NBRx: New-to-brand prescriptions

changing  
diabetes®

## Ozempic® monthly volume market share uptake across Europe and Canada



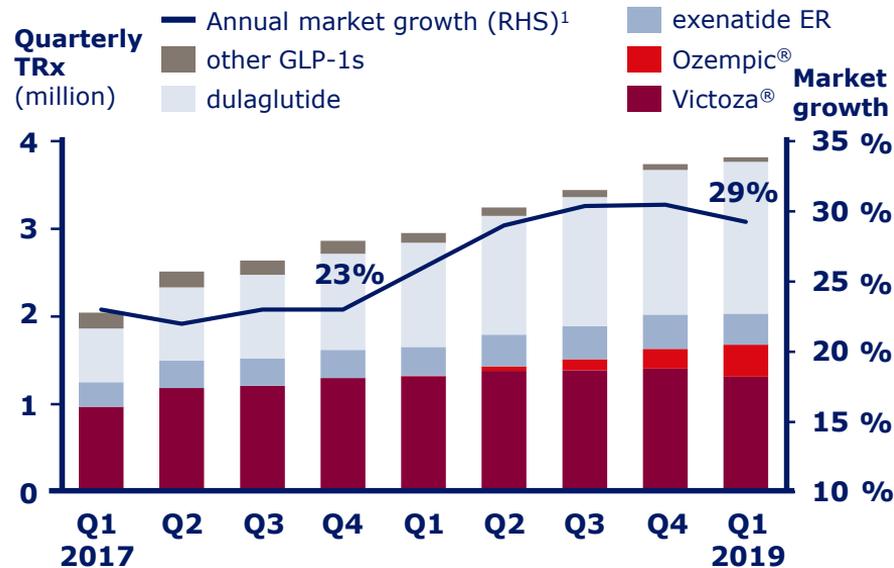
Source: IQVIA monthly, Feb 2019

Note: Ozempic® was launched in the first European country in August 2018

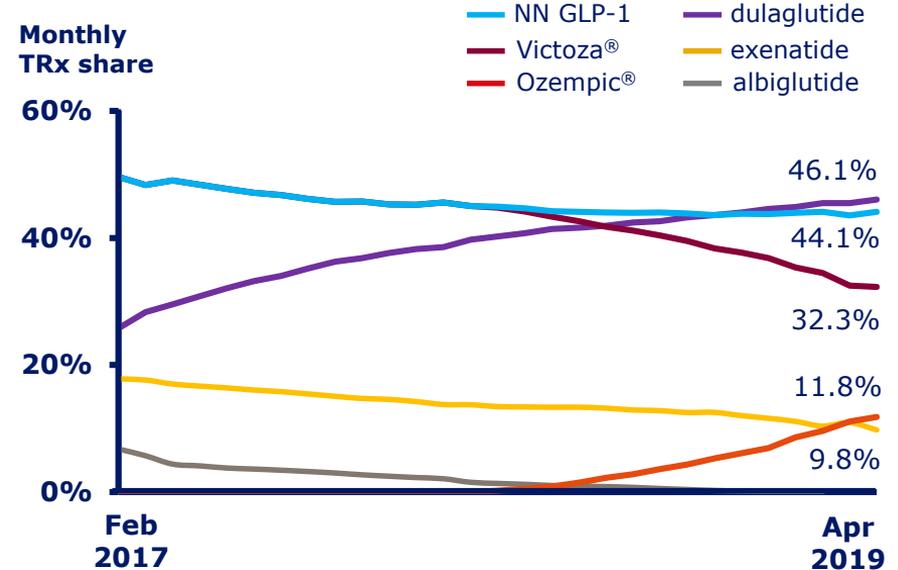


# Ozempic® launch has stabilised Novo Nordisk's total US GLP-1 market share in a market growing 29% annually

## USA GLP-1 quarterly prescription market development



## USA GLP-1 volume market share



Source: IQVIA monthly NPA, Feb 2019, weekly scripts until week ending 7 April 2019, TRx Script Count for prior quarters

<sup>1</sup> Growth rate three months year over year

RHS: Right hand side; TRx: Total prescription volume

Source: IQVIA monthly NPA, Feb 2019, weekly NPA for Mar and Apr, week ending 14 Apr 2019

# Saxenda® sales growth of 51% in first quarter of 2019 and market development activities continue globally

## Saxenda® sales growth in both IO and NAO



Note: Numbers in the graph are reported quarterly sales  
 CER: Constant exchange rates; IO: International Operations; NAO: North America Operations

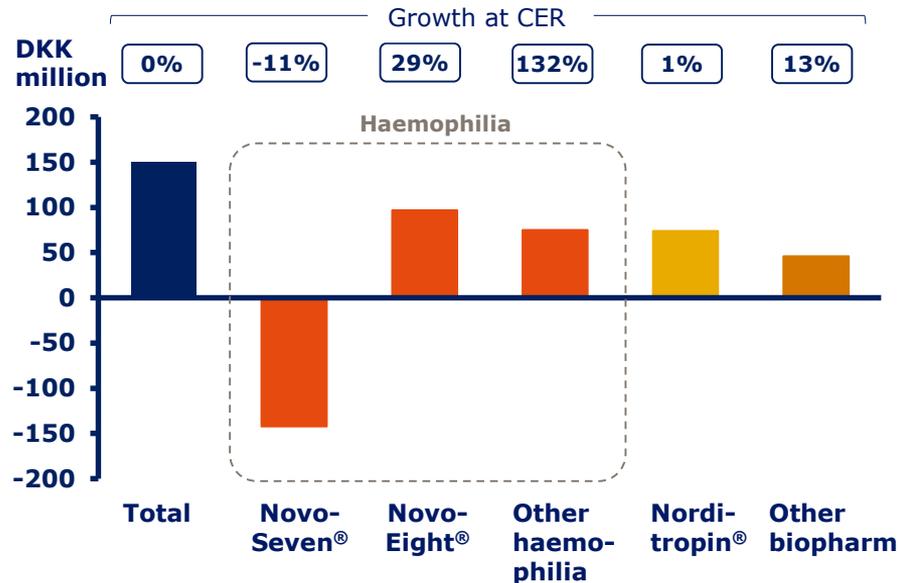
## Novo Nordisk has market leadership within the global obesity market

- Global**
- Novo Nordisk maintains market leadership with 55% value market share
  - Saxenda® is now launched in 41 countries
- 
- IO**
- Sales growth of 146% driven by Region AAMEO, Region Latin America and Region Europe
  - Novo Nordisk is market leader in IO with a 38% value market share
- 
- NAO**
- Sales growth of 13% impacted by inventory reductions
  - Increased volume market share of 10%-points to 29% of the AOM market in the US
  - Branded AOM market declining 16% in the US

Source: IQVIA monthly, Feb 2019  
 IO: International Operations; NAO: North America Operations; AOM: Anti-obesity medication; AAMEO: Africa, Asia, Middle East & Oceania

# Stable biopharm sales supported by commercial execution and global product launches

## Stable biopharm sales despite NovoSeven® sales decline



Note: Graph depicts reported sales in the first quarter of 2019; 'Other haemophilia' comprises NovoThirteen® and Refixia®, 'Other biopharm' comprises primarily Vagifem® and Actixelle®

## Biopharm sales supported by strong global commercial execution

Unchanged Biopharm sales driven by **International Operations growing 1%** and **North America Operations sales declining 3%**

**Haemophilia sales declined by 3%** driven by

- 11% declining NovoSeven® sales
- Offset by global roll-out of NovoEight® in 46 countries and launch of Refixia® in 14 countries

Novo Nordisk retains **global market leadership in human growth disorder market** with a **33%** value market share

**'Return Biopharm to growth' strategy on track**

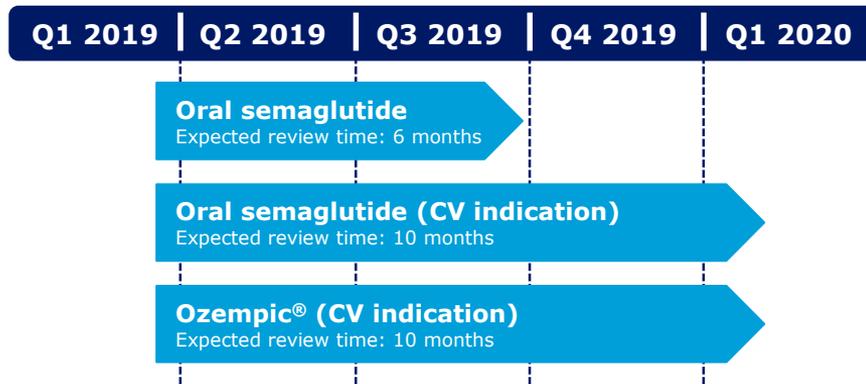
- Continued focus on commercial execution, progressing internal pipeline and adding complementary assets

IO: International Operations; NAO: North America Operations

Note: Refixia® is the global brand name and Rebinyn® is the brand name in North America

# Oral semaglutide filed in the USA, the EU and Canada, and Ozempic® CV risk reduction indication filed in the USA

## Expected timelines for the FDA review



## Oral semaglutide filed in key markets



### Three FDA filings:

- NDA for oral semaglutide for glycaemic control
- NDA for oral semaglutide CV indication
- sNDA for Ozempic® CV indication



**Regulatory filing** in the EU for oral semaglutide for type 2 diabetes treatment



**Regulatory filing** in Canada for oral semaglutide for type 2 diabetes treatment

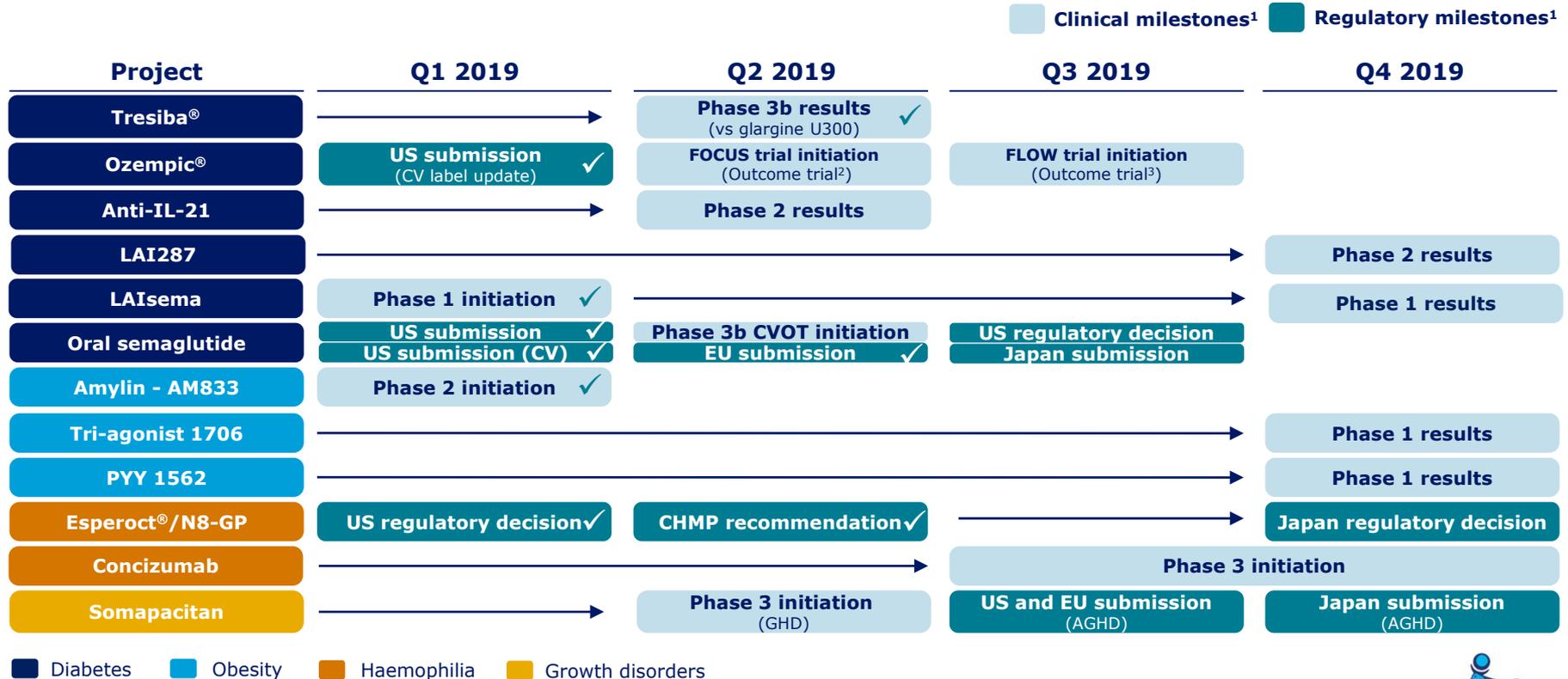
CV: Cardiovascular; FDA: the US Food and Drug Administration; Q: Quarter; NDA: New Drug Application; sNDA: Supplementary New Drug Application

# Key development milestones

<b>Diabetes</b>	<ul style="list-style-type: none"> <li>• Oral semaglutide filed with the US FDA for diabetes with six months review time and in the EU and Canada</li> <li>• Oral semaglutide and Ozempic® US FDA filed for CV risk reduction indications with ten months review time</li> <li>• Tresiba® shows overall lower risk of hypoglycaemia, significantly lower HbA<sub>1c</sub> and insulin dose compared to insulin glargine U300</li> </ul>
<b>Obesity</b>	<ul style="list-style-type: none"> <li>• Phase 2 trial initiated for the long-acting amylin analogue, AM833, in people with overweight or obesity</li> </ul>
<b>Biopharm</b>	<ul style="list-style-type: none"> <li>• Esperoct® (N8-GP), used for treatment of haemophilia A, approved in the US for adults and children and endorsed by the EU CHMP for adults and adolescents</li> <li>• Breakthrough Therapy Designation granted by the US FDA for concizumab for prophylaxis treatment of people with haemophilia B and inhibitors</li> <li>• Phase 1/2 paediatric trial initiated for Macrilen® for diagnosis of growth hormone deficiency</li> </ul>
<b>Other serious chronic diseases</b>	<ul style="list-style-type: none"> <li>• Gilead Sciences and Novo Nordisk to collaborate on a joint clinical trial in NASH</li> </ul>

FDA: Food and Drug Administration; CHMP: Committee for Medicinal Products for Human Use; CV: Cardiovascular; NASH: Non-alcoholic steatohepatitis

# R&D milestones in 2019



<sup>1</sup> Expected to be published in the given quarter or in the subsequent quarterly company announcement; <sup>2</sup> Diabetic retinopathy outcome trial; <sup>3</sup> Diabetes kidney disease outcome trial

Note: GG-co-agonist in obesity phase 1 decisive results are now expected in 2020

GHD: Growth hormone deficiency; AGHD: Adult growth hormone deficiency; CVOT: Cardiovascular outcomes trial; CV: Cardiovascular



# Financial results – First quarter of 2019

In DKK million	First quarter of 2019	First quarter of 2018	Change (reported)	Change (CER)
<b>Sales</b>	29,291	26,930	9%	4%
<b>Gross profit</b>	24,559	22,733	8%	
<i>Gross margin</i>	83.8%	84.4%		
Sales and distribution costs	6,946	6,451	8%	3%
<i>Percentage of sales</i>	23.7%	24.0%		
Research and development costs	2,678	3,321	(19%)	(21%)
<i>Percentage of sales</i>	9.1%	12.3%		
Administration costs	911	864	5%	3%
<i>Percentage of sales</i>	3.1%	3.2%		
Other operating income, net	215	351	(39%)	
<b>Operating profit</b>	14,239	12,448	14%	8%
<i>Operating margin</i>	48.6%	46.2%		
Financial items (net)	(1,017)	1,161		
<b>Profit before income tax</b>	13,222	13,609	(3%)	
Income taxes	2,777	2,858	(3%)	
<i>Effective tax rate</i>	21.0%	21.0%		
<b>Net profit</b>	10,445	10,751	(3%)	
<b>Diluted earnings per share (DKK)</b>	4.36	4.40	(1%)	

CER: Constant exchange rates

# Financial outlook for 2019

	Expectations 3 May 2019	Expectations 1 Feb 2019
Sales growth – at CER	2% to 5%	2% to 5%
Sales growth - reported	<b>Around 3%-points higher</b>	Around 2%-points higher
Operating profit growth – at CER	2% to 6%	2% to 6%
Operating profit growth - reported	<b>Around 5%-points higher</b>	Around 4%-points higher
Financial items (net)	<b>Loss of around DKK 3.3 billion</b>	Loss of around DKK 2.4 billion
Effective tax rate	20% to 22%	20% to 22%
Capital expenditure	Around DKK 9.0 billion	Around DKK 9.0 billion
Depreciation, amortisation and impairment losses	Around DKK 4.5 billion	Around DKK 4.5 billion
Free cash flow	Around DKK 29 to 34 billion	Around DKK 29 to 34 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 30 April 2019.

CER: Constant exchange rates

# Key take-aways – First quarter of 2019



Diabetes

**Diabetes franchise grew 4%** and Novo Nordisk retains world leader position with a market share of 28.1% (up from 27.5%)

- **Insulin sales** increased 2% and Novo Nordisk has expanded its volume market leader position to 46.7% insulin market share (up from 46.1%)
- **GLP-1 sales** grew 11% and Novo Nordisk holds the market leader position with 46% value market share, which has stabilised following the solid launch of Ozempic®
- **Oral semaglutide filed** in the USA, the EU and Canada for treatment of adults with type 2 diabetes and Ozempic® and oral semaglutide filed in the USA for CV risk reduction indications



Obesity

**Obesity sales** increased by 51% driven by IO (146% sales growth) and NAO (13% sales growth). Saxenda® is now launched in 41 countries



Biopharm

**Biopharm sales unchanged** supported by strong commercial execution and global product launches



Financials

**Sales growth of 4%** driven by IO (13% sales growth), partly offset by North America Operations (4% sales decline). Sales growth driven by GLP-1 segment (11% sales growth) and Obesity segment (51% sales growth)

**Operating profit growth of 8%** driven by sales performance and reversal of R&D write-downs of oral semaglutide pre-launch inventory



Outlook

**Sales growth** in 2019 still expected to be 2-5% with a positive currency impact of 3%-points

**Operating profit growth** in 2019 still expected to be 2-6% with a positive currency impact of 5%-points

Note: Sales growth numbers are stated in constant exchange rates

IO: International Operations; NAO: North America Operations; CV: Cardiovascular

# Investor contact information

## Share information

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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:  
[www.novonordisk.com](http://www.novonordisk.com)

## Upcoming events

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09 June 2019	American Diabetes Association investor presentation
09 Aug 2019	Financial statement for the first six months of 2019
01 Nov 2019	Financial statement for the first nine months of 2019
05 Feb 2020	Financial statement for the full year of 2019

## Investor Relations contacts

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# Appendix

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# Novo Nordisk at a glance

## Global leader in diabetes and obesity

- A focused pharmaceutical company with leading positions in diabetes, obesity, 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 at CER)
- Earnings conversion to cash targeting 85%
- Cash generated returned to shareholders

CER: Constant exchange rates

## Global insulin market leadership

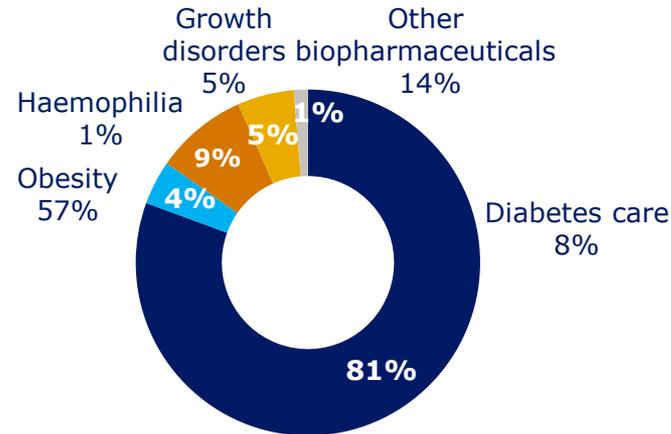
Global insulin market share: 47%



Source: IQVIA MAT, Feb 2019 volume figures  
AAMEO: Africa, Asia, the Middle East & Oceania

# Sales growth of 4% mainly driven by the diabetes and obesity segments

## Reported sales for first quarter of 2019



Sales of DKK 29.3 billion (+9%)

## Growth break down for first quarter of 2019

Constant exchange rates	Growth	Share of growth
Long-acting insulin <sup>1</sup>	3%	11%
Premix insulin <sup>2</sup>	3%	6%
Fast-acting insulin <sup>3</sup>	0%	2%
Human insulin	0%	0%
<b>Total insulin</b>	<b>2%</b>	<b>19%</b>
GLP-1 <sup>4</sup>	11%	56%
Other diabetes <sup>5</sup>	(7%)	(7%)
<b>Total diabetes</b>	<b>4%</b>	<b>68%</b>
Obesity (Saxenda®)	5%	33%
<b>Diabetes and obesity total</b>	<b>5%</b>	<b>101%</b>
Haemophilia <sup>6</sup>	(3%)	(6%)
Growth disorders (Norditropin®)	1%	1%
Other biopharmaceuticals <sup>7</sup>	13%	4%
<b>Biopharmaceuticals total</b>	<b>0%</b>	<b>(1%)</b>
<b>Total</b>	<b>4%</b>	<b>100%</b>

<sup>1</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>2</sup> Comprises Ryzodeg® and NovoMix®

<sup>3</sup> Comprises Fiasp® and NovoRapid®; <sup>4</sup> Comprises Victoza® and Ozempic®

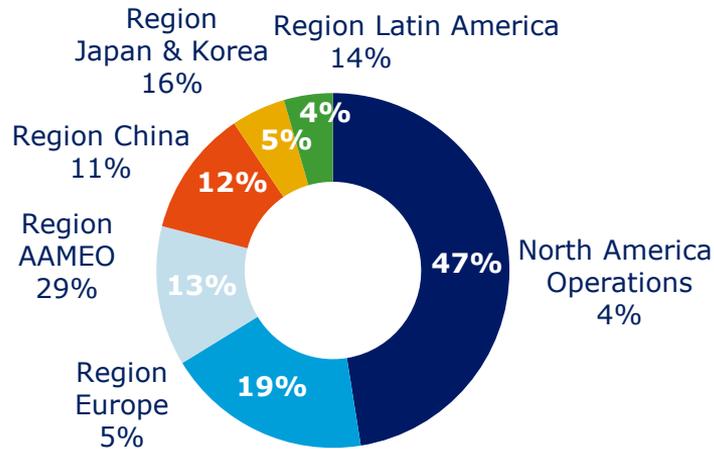
<sup>5</sup> Primarily NovoNorm® and needles; <sup>6</sup> Comprises NovoSeven®, NovoEight®, NovoThirteen® and Refixia®;

<sup>7</sup> Primarily Vagifem® and Activelle®

Note: Refixia® and NovoThirteen® are launched as Rebinyn® and TRETEN®, respectively, in North America

# Sales growth of 4% driven by IO sales growth of 13% and 4% sales decline in NAO

## Reported sales for first quarter of 2019



Sales of DKK 29.3 billion (+9%)

AAMEO: Africa, Asia, Middle East & Oceania

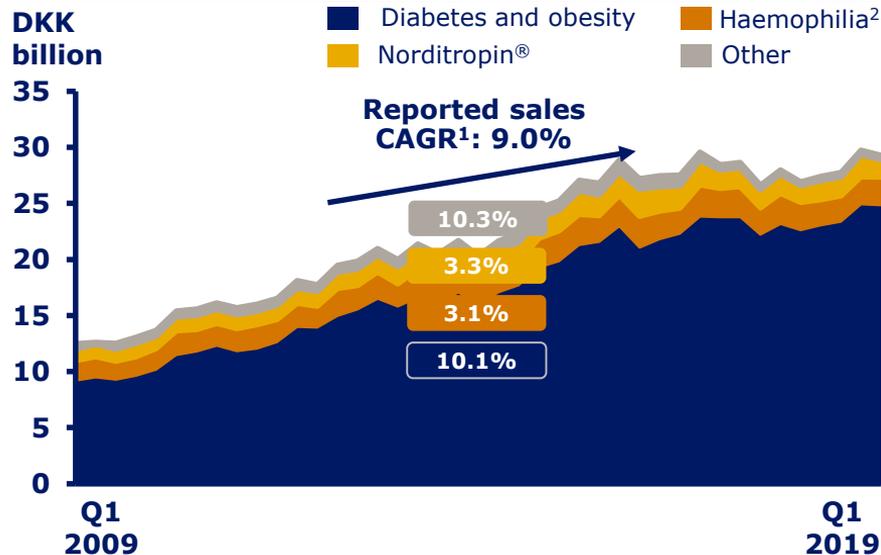
## Growth break down for first quarter of 2019

Constant exchange rates	Growth	Share of growth
<b>International Operations</b>	<b>13%</b>	<b>143%</b>
Region Europe	5%	22%
Region AAMEO	29%	70%
Region China	9%	22%
Region Japan & Korea	9%	10%
Region Latin America	20%	19%
<b>North America Operations</b>	<b>(4%)</b>	<b>(43%)</b>
Hereof USA	(5%)	(59%)
<b>Total sales</b>	<b>4%</b>	<b>100%</b>

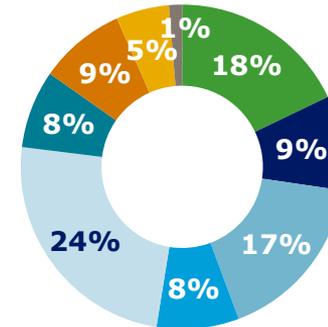
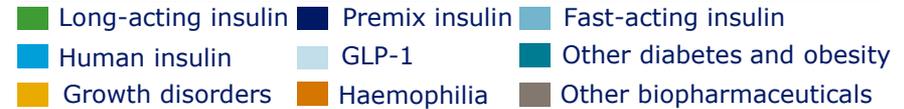
AAMEO: Africa, Asia, Middle East & Oceania

# Sales growth driven by the diabetes and obesity franchise

## Novo Nordisk reported quarterly sales by therapy



## Reported sales split by product segments for first quarter of 2019



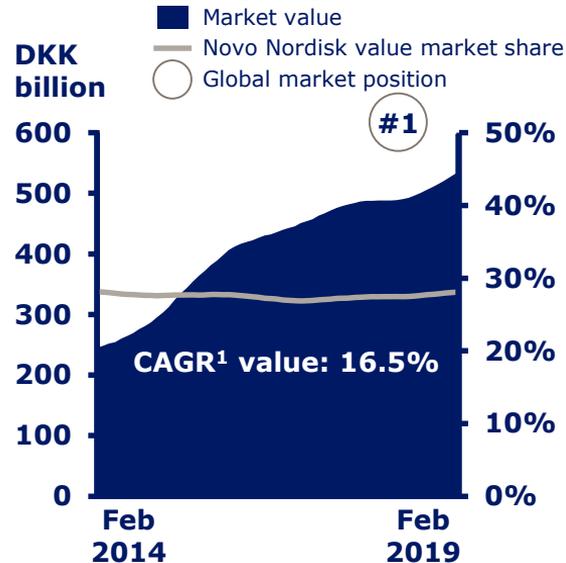
Sales of DKK 29.3 billion (+9%)

<sup>1</sup> CAGR for 10-year period

<sup>2</sup> Haemophilia comprises NovoSeven®, NovoThirteen®, NovoEight® and Refixia®

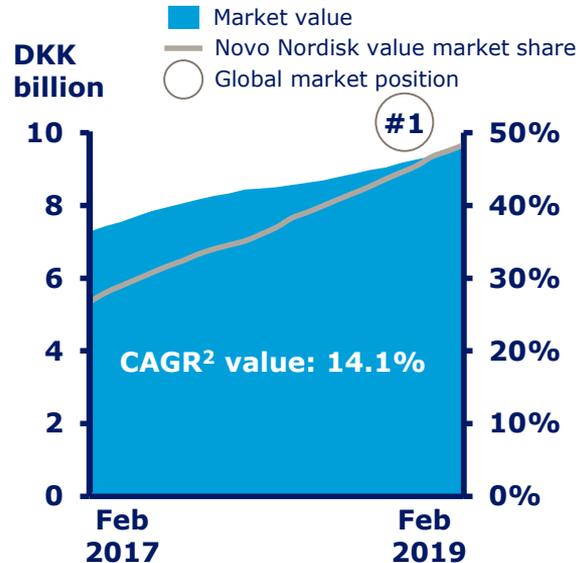
# Novo Nordisk has leading positions in diabetes, obesity and haemophilia

## Diabetes



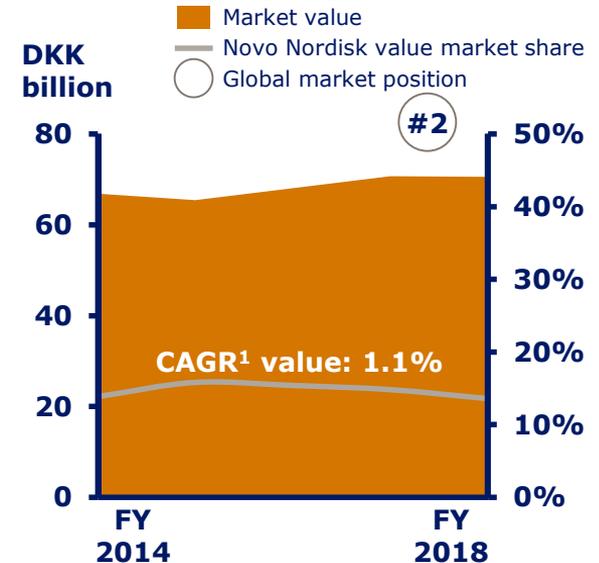
<sup>1</sup> CAGR for 5-year period  
Source: IQVIA MAT, Feb 2019 value figures

## Obesity



<sup>2</sup> CAGR for 2-year period  
Source: IQVIA MAT, Feb 2019 value figures

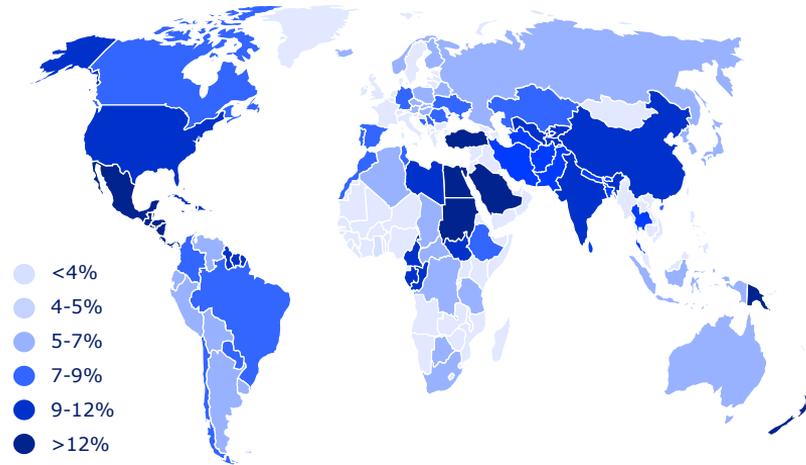
## Haemophilia



<sup>3</sup> CAGR for 5-year period  
Note: Annual sales figures for haemophilia A, B and bypassing agents segment. Recombinant and plasma derived products  
Source: Company reports

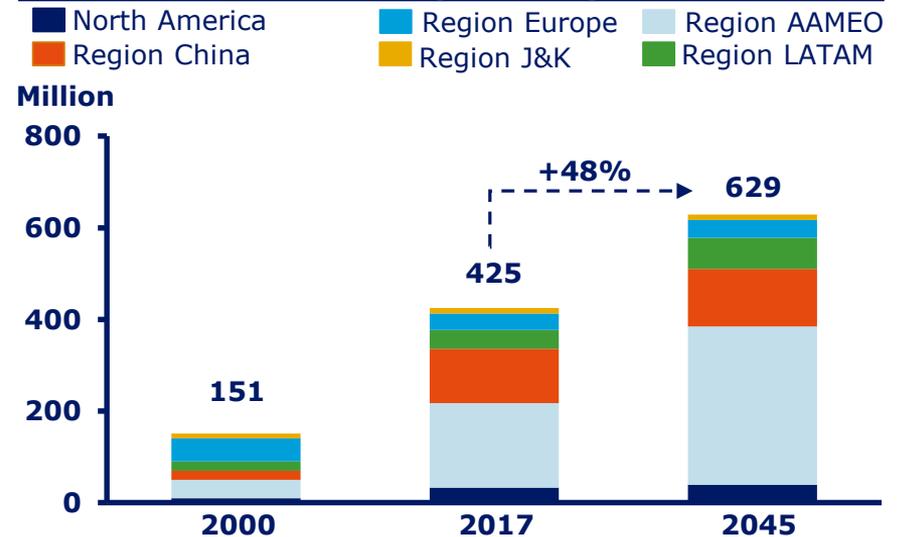
# Global diabetes prevalence is increasing and 629 million people are expected to have diabetes by 2045

Around 10% of all adults globally have diabetes



Source: Adapted from International Diabetes Federation: Diabetes Atlas 8<sup>th</sup> Edition 2017

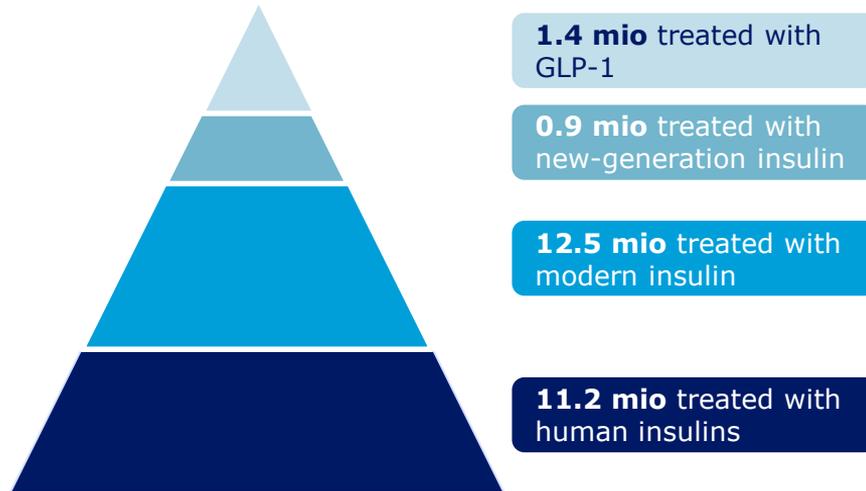
The number of people with diabetes is expected to increase by 48% by 2045



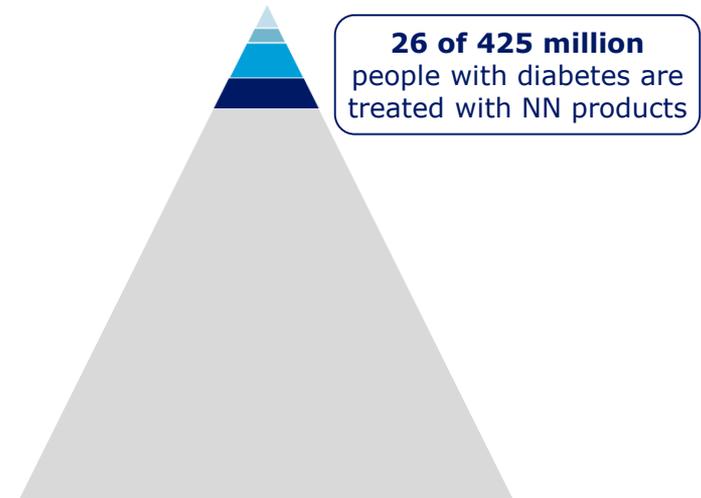
J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle-East and Oceania; LATAM: Latin America  
Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

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

Around 29 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 8<sup>th</sup> Edition 2017

# Novo Nordisk's opportunity is in the large unmet needs across all therapy areas in scope

## DIABETES

425 million



People with diabetes

~6%



People in good control

## OBESITY

650 million



People with obesity

~2%



People medically treated

## HAEMOPHILIA

~425,000



People with haemophilia

~50%



People living with constant pain

## OTHER SERIOUS CHRONIC DISEASES



80% of diagnosed NASH patients are obese and 35% have T2DM



70% of diabetes patients die from atherosclerotic CVD



40% of patients hospitalised for heart failure are diabetic



~50% of the total CKD population suffers from diabetic nephropathy

NASH: Non-alcoholic steatohepatitis, T2DM: Type 2 diabetes mellitus, CVD: Cardiovascular disease, CKD: Chronic kidney disease

Source: International Diabetes Federation; Diabetes Atlas 8<sup>th</sup> Edition 2017, IQVIA MIDAS 2017, World Federation of Haemophilia – Annual Global Survey 2016, 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 non-alcoholic fatty liver disease and non-alcoholic steatohepatitis among a largely middle-aged population utilising ultrasound and liver biopsy, 2011; Addressing the global burden of chronic kidney disease through clinical and translational research, 2014

# Six strategic priorities



**EXPAND THE  
GLP-1 MARKET  
AND WIN WITH  
SEMAGLUTIDE**



**DRIVE  
INSULIN  
VOLUME AND  
VALUE SHARE**



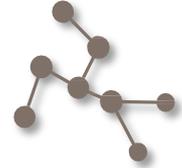
**BUILD THE  
GLOBAL  
OBESITY  
MARKET**



**RETURN TO  
GROWTH IN  
BIOPHARM**



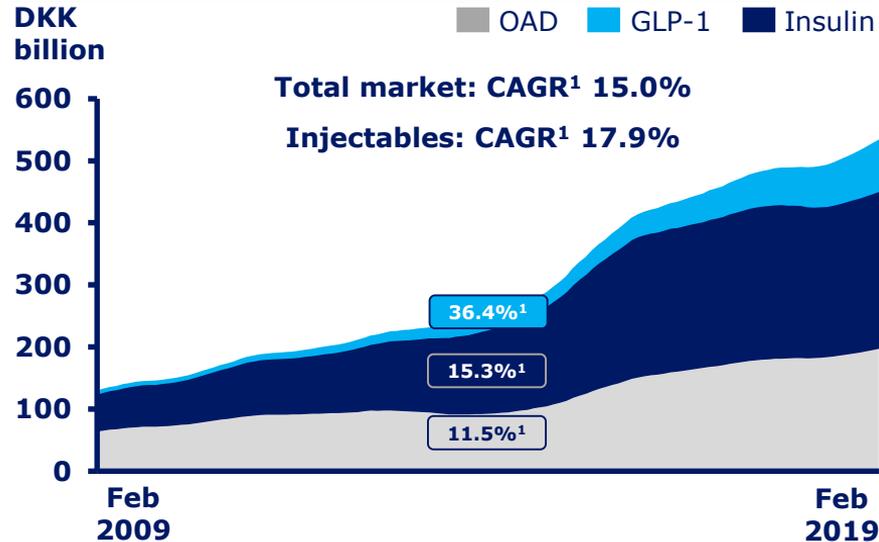
**DRIVE  
COMMERCIAL  
INNOVATION**



**INNOVATE  
AND EXPAND  
PATIENT BASE**

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

## Global diabetes market by treatment class



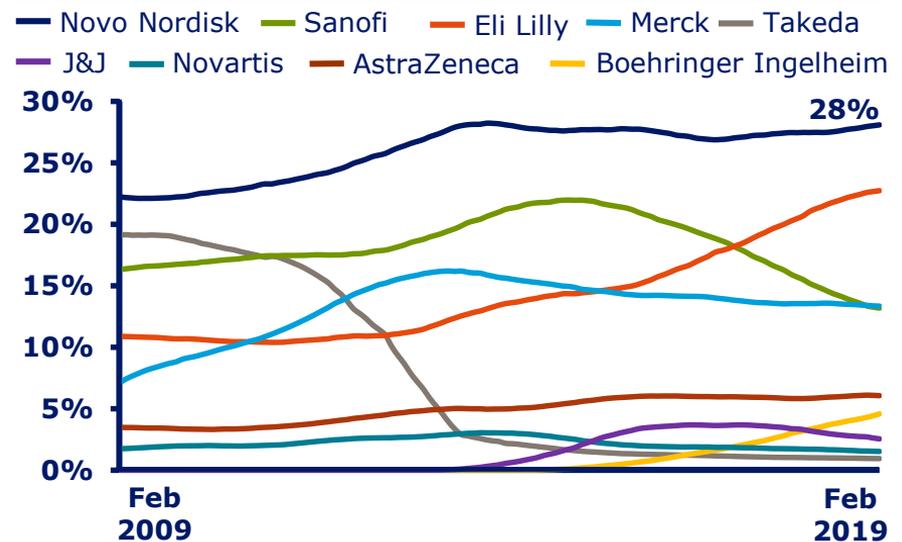
<sup>1</sup> CAGR for 10-year period

OAD: Oral anti-diabetic

Source: IQVIA MAT, Feb 2019 value figures

changing  
diabetes®

## Novo Nordisk remain global diabetes value market leader



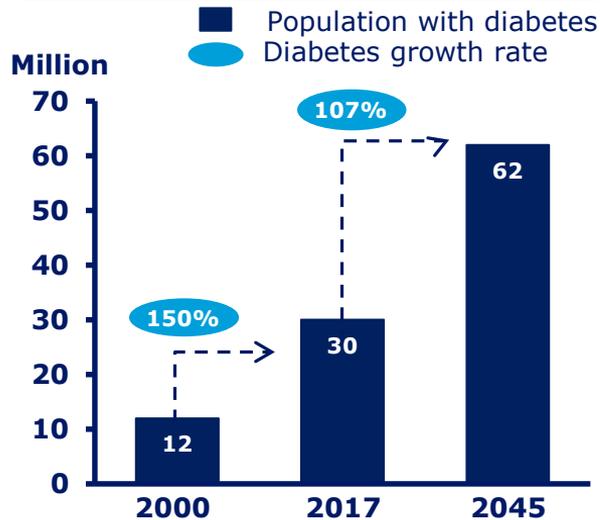
Source: IQVIA MAT, Feb 2019 value figures



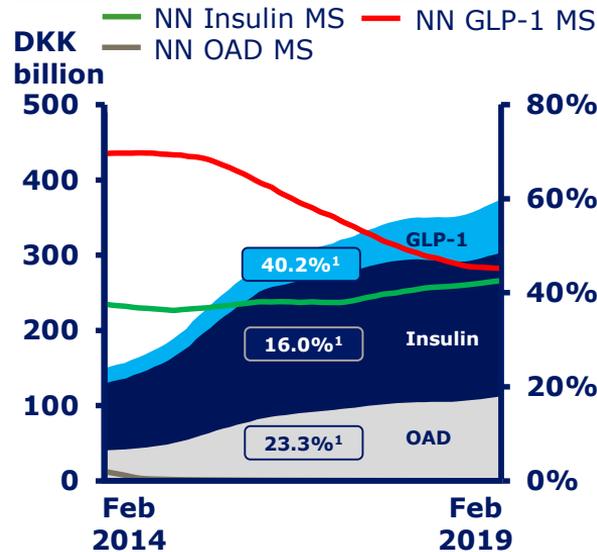


# North America Operations at a glance

## Diabetes trend in population



## Diabetes market by value and Novo Nordisk market share



## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	3,027	(6%)
Premix insulin <sup>4</sup>	289	(35%)
Fast-acting insulin <sup>5</sup>	2,366	(14%)
Human insulin	378	(28%)
<b>Total insulin</b>	<b>6,060</b>	<b>(13%)</b>
GLP-1 <sup>6</sup>	5,305	7%
Other diabetes <sup>7</sup>	203	(14%)
<b>Diabetes</b>	<b>11,568</b>	<b>(5%)</b>
Obesity (Saxenda <sup>®</sup> )	671	13%
<b>Biopharmaceuticals<sup>8</sup></b>	<b>1,665</b>	<b>(3%)</b>
<b>Total</b>	<b>13,904</b>	<b>(4%)</b>

North America Population 2018: ~0.4 billion people and regional diabetes prevalence ~13%

Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

<sup>1</sup> CAGR calculated for 5-year period

Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 43%, Eli Lilly 30% and Sanofi 27%

Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 47%, Eli Lilly 44% and AstraZeneca 9%

OAD: Oral anti-diabetic; MS: Market share

Source: IQVIA MAT, Feb 2019 value figures

<sup>2</sup> At constant exchange rates

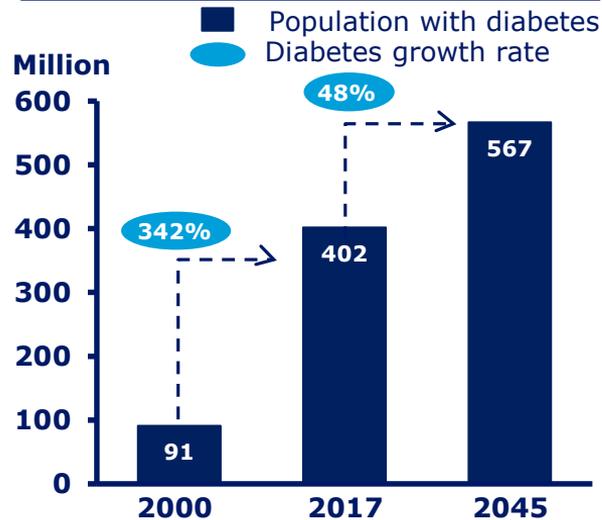
<sup>3</sup> Comprises Tresiba<sup>®</sup>, Xultophy<sup>®</sup> and Levemir<sup>®</sup>; <sup>4</sup> Comprises NovoMix<sup>®</sup>;

<sup>5</sup> Comprises Fiasp<sup>®</sup> and NovoRapid<sup>®</sup>; <sup>6</sup> Comprises Victoza<sup>®</sup> and Ozempic<sup>®</sup>; <sup>7</sup> Comprises NovoNorm<sup>®</sup> and needles; <sup>8</sup> Comprises primarily NovoSeven<sup>®</sup>, NovoEight<sup>®</sup>, NovoThirteen<sup>®</sup>, Refixia<sup>®</sup>, Norditropin<sup>®</sup>, Vagifem<sup>®</sup> and Activelle<sup>®</sup>



# International Operations at a glance

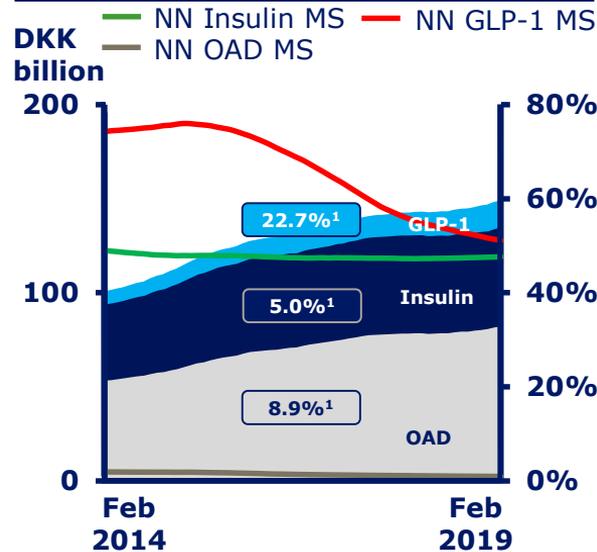
## Diabetes trend in population



International Operations Population 2018: ~7 billion people and diabetes prevalence ~8%

Source: International Diabetes Federation: Diabetes Atlas 1<sup>th</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

## Diabetes market by value and Novo Nordisk market share



<sup>1</sup> CAGR calculated for 5-year period

Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 48%, Sanofi 30% and Eli Lilly 16%

Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 50%, Eli Lilly 43% and AstraZeneca 7%

OAD: Oral anti-diabetic; MS: Market share

Source: IQVIA MAT, Feb 2019 value figures

## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	2,217	17%
Premix insulin <sup>4</sup>	2,468	10%
Fast-acting insulin <sup>5</sup>	2,611	17%
Human insulin	2,037	7%
<b>Total insulin</b>	<b>9,333</b>	<b>13%</b>
GLP-1 <sup>6</sup>	1,842	25%
Other diabetes <sup>7</sup>	864	(6%)
<b>Diabetes</b>	<b>12,039</b>	<b>13%</b>
Obesity (Saxenda <sup>®</sup> )	540	146%
<b>Biopharmaceuticals<sup>8</sup></b>	<b>2,808</b>	<b>1%</b>
<b>Total</b>	<b>15,387</b>	<b>13%</b>

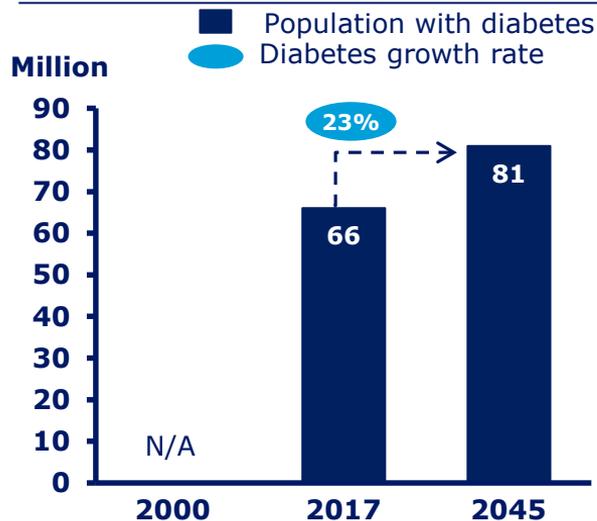
<sup>2</sup> At constant exchange rates

<sup>3</sup> Comprises Tresiba<sup>®</sup>, Xultophy<sup>®</sup> and Levemir<sup>®</sup>; <sup>4</sup> Comprises Ryzodeg<sup>®</sup> and NovoMix<sup>®</sup>; <sup>5</sup> Comprises Fiasp<sup>®</sup> and NovoRapid<sup>®</sup>; <sup>6</sup> Comprises Victoza<sup>®</sup> and Ozempic<sup>®</sup>; <sup>7</sup> Comprises NovoNorm<sup>®</sup> and needles; <sup>8</sup> Comprises primarily NovoSeven<sup>®</sup>, NovoEight<sup>®</sup>, NovoThirteen<sup>®</sup>, Refixia<sup>®</sup>, Norditropin<sup>®</sup>, Vagifem<sup>®</sup> and Activelle<sup>®</sup>

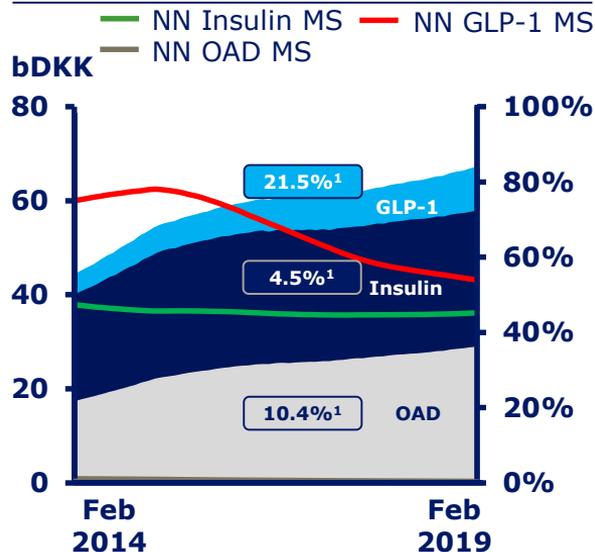


# Region Europe at a glance

## Diabetes trend in population



## Diabetes market by value and Novo Nordisk market share



## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	1,150	14%
Premix insulin <sup>4</sup>	401	(7%)
Fast-acting insulin <sup>5</sup>	1,142	4%
Human insulin	348	(14%)
<b>Total insulin</b>	<b>3,041</b>	<b>3%</b>
GLP-1 <sup>6</sup>	1,050	21%
Other diabetes <sup>7</sup>	135	(2%)
<b>Diabetes</b>	<b>4,226</b>	<b>7%</b>
Obesity (Saxenda <sup>®</sup> )	66	74%
<b>Biopharmaceuticals<sup>8</sup></b>	<b>1,213</b>	<b>(4%)</b>
<b>Total</b>	<b>5,505</b>	<b>5%</b>

Europe Population 2018: ~0.7 billion people and regional diabetes prevalence ~9.1%  
 Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

<sup>1</sup> CAGR calculated for last 5-year period  
 Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 46%, Sanofi 34% and Eli Lilly 18%  
 Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 52%, Eli Lilly 40% and AstraZeneca 7%  
 OAD: Oral anti-diabetic; MS: Market share  
 Source: IQVIA MAT, Feb 2019 value figures

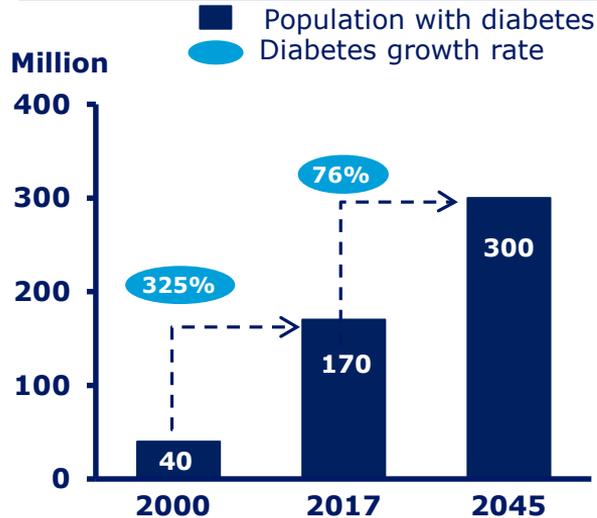
<sup>2</sup> At constant exchange rates

<sup>3</sup> Comprises Tresiba<sup>®</sup>, Xultophy<sup>®</sup> and Levemir<sup>®</sup>; <sup>4</sup> Comprises NovoMix<sup>®</sup> and Ryzodeg<sup>®</sup>; <sup>5</sup> Comprises Fiasp<sup>®</sup> and NovoRapid<sup>®</sup>; <sup>6</sup> Comprises Victoza<sup>®</sup> and Ozempic<sup>®</sup>; <sup>7</sup> Comprises NovoNorm<sup>®</sup> and needles; <sup>8</sup> Comprises primarily NovoSeven<sup>®</sup>, NovoEight<sup>®</sup>, NovoThirteen<sup>®</sup>, Refixia<sup>®</sup>, Norditropin<sup>®</sup>, Vagifem<sup>®</sup> and Activelle<sup>®</sup>

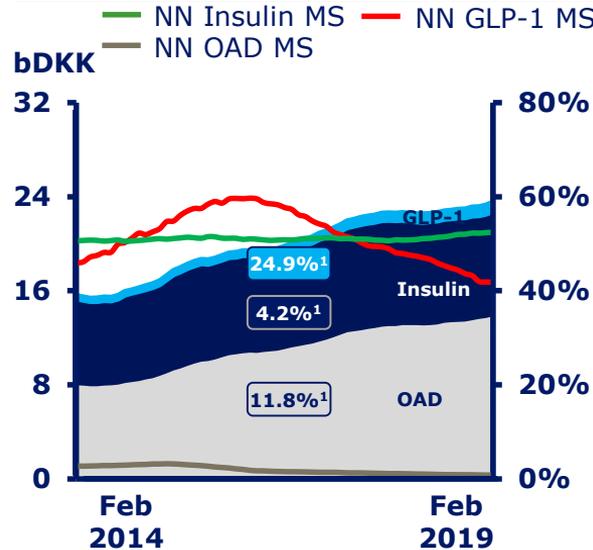


# Region AAMEO at a glance

## Diabetes trend in population



## Diabetes market by value and Novo Nordisk market share



## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	400	32%
Premix insulin <sup>4</sup>	767	22%
Fast-acting insulin <sup>5</sup>	700	43%
Human insulin	612	26%
<b>Total insulin</b>	<b>2,479</b>	<b>30%</b>
GLP-1 <sup>6</sup>	272	11%
Other diabetes <sup>7</sup>	174	8%
<b>Diabetes</b>	<b>2,925</b>	<b>27%</b>
Obesity (Saxenda <sup>®</sup> )	236	149%
<b>Biopharmaceuticals<sup>8</sup></b>	<b>577</b>	<b>18%</b>
<b>Total</b>	<b>3,738</b>	<b>29%</b>

AAMEO: Africa, Asia, the Middle-East and Oceania

AAMEO population 2018: ~4 billion people and regional diabetes prevalence ~7.3%

Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

<sup>1</sup> CAGR calculated for last 5-year period

Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 53%, Sanofi 31% and Eli Lilly 11%

Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 47%, Eli Lilly 34% and AstraZeneca 18%

OAD: Oral anti-diabetic; MS: Market share

Source: IQVIA MAT, Feb 2019 value figures

<sup>2</sup> At constant exchange rates

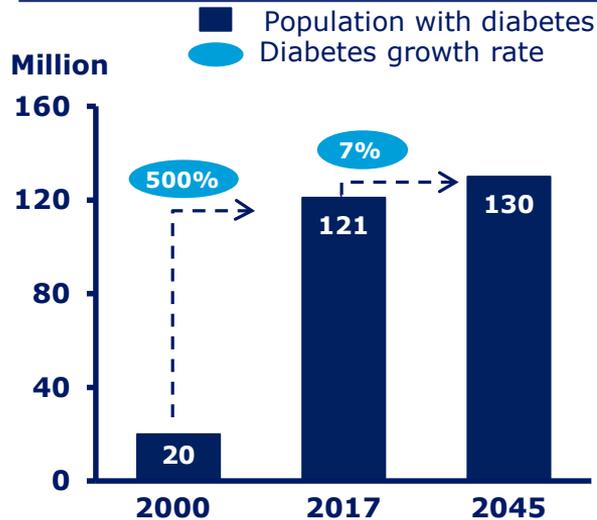
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<sup>7</sup> Comprises NovoNorm<sup>®</sup> and needles; <sup>8</sup> Comprises primarily NovoSeven<sup>®</sup>, NovoEight<sup>®</sup>, NovoThirteen<sup>®</sup>, Norditropin<sup>®</sup>, Vagifem<sup>®</sup> and Activelle<sup>®</sup>

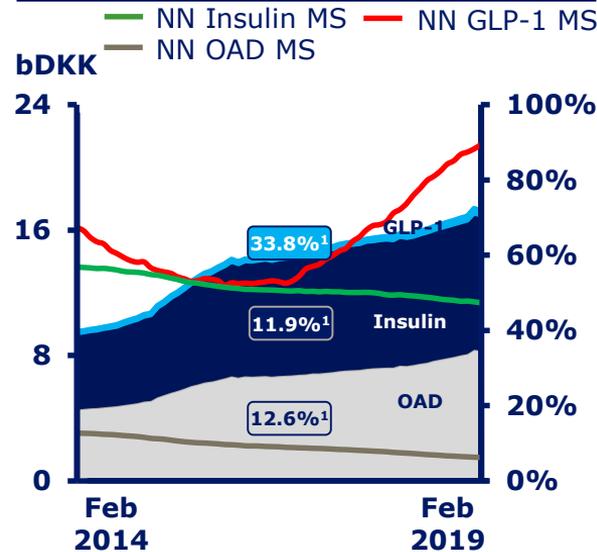


# Region China at a glance

## Diabetes trend in population



## Diabetes market by value and Novo Nordisk market share



## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	270	29%
Premix insulin <sup>4</sup>	1,112	10%
Fast-acting insulin <sup>5</sup>	461	22%
Human insulin	797	(3%)
<b>Total insulin</b>	<b>2,640</b>	<b>9%</b>
GLP-1 <sup>6</sup>	214	90%
Other diabetes <sup>7</sup>	437	(14%)
<b>Diabetes</b>	<b>3,291</b>	<b>8%</b>
Obesity (Saxenda®)	2	-
<b>Biopharmaceuticals<sup>8</sup></b>	<b>82</b>	<b>41%</b>
<b>Total</b>	<b>3,375</b>	<b>9%</b>

China population 2018: ~1.4 billion people and diabetes prevalence ~10.9%

Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

<sup>1</sup> CAGR calculated for last 5-year period

Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 48%, Sanofi 20%, Gan & Lee 12% and Eli Lilly 11%

Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 93% and AstraZeneca 6%

OAD: Oral anti-diabetic; MS: Market share

Source: IQVIA MAT, Feb 2019 value figures

<sup>2</sup> At constant exchange rates

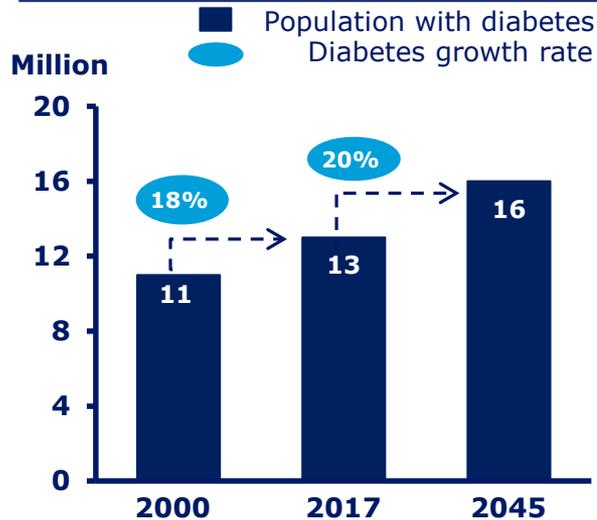
<sup>3</sup> Comprises Tresiba® and Levemir®; <sup>4</sup> Comprises NovoMix®;

<sup>5</sup> Comprises NovoRapid®; <sup>6</sup> Comprises Victoza®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Comprises primarily NovoSeven®, NovoEight® and Norditropin®

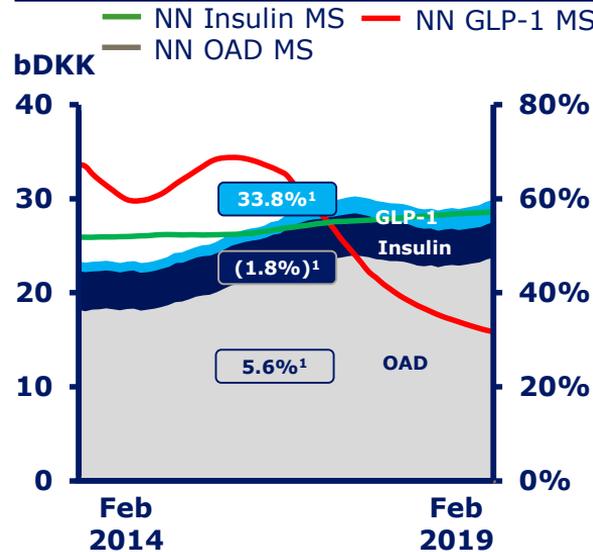


# Region Japan & Korea at a glance

## Diabetes trend in population



## Diabetes market by value and Novo Nordisk market share



## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	207	(1%)
Premix insulin <sup>4</sup>	158	2%
Fast-acting insulin <sup>5</sup>	177	(12%)
Human insulin	40	(10%)
<b>Total insulin</b>	<b>582</b>	<b>(5%)</b>
GLP-1 <sup>6</sup>	147	10%
Other diabetes <sup>7</sup>	104	17%
<b>Diabetes</b>	<b>833</b>	<b>0%</b>
Obesity (Saxenda <sup>®</sup> )	77	-
<b>Biopharmaceuticals<sup>8</sup></b>	<b>548</b>	<b>9%</b>
<b>Total</b>	<b>1,458</b>	<b>9%</b>

Japan & Korea population 2018: ~0.2 billion people and diabetes prevalence ~7.0%  
Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

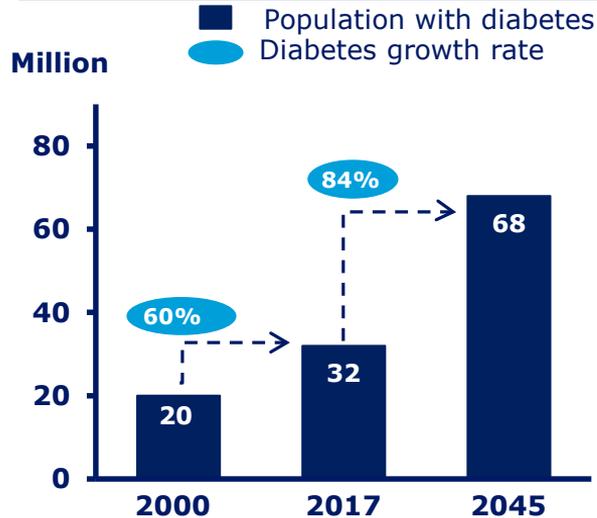
<sup>1</sup> CAGR calculated for last 5-year period  
Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 57%, Eli Lilly 21% and Sanofi 21%  
Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 30%, Eli Lilly 66%, Sanofi 2% and AstraZeneca 2%  
OAD: Oral anti-diabetic; MS: Market share  
Source: IQVIA MAT, Feb 2019 value figures

<sup>2</sup> At constant exchange rates  
<sup>3</sup> Comprises Tresiba<sup>®</sup> and Levemir<sup>®</sup>; <sup>4</sup> Comprises NovoMix<sup>®</sup> and Ryzodeg<sup>®</sup>; <sup>5</sup> Comprises NovoRapid<sup>®</sup>; <sup>6</sup> Comprises Victoza<sup>®</sup>; <sup>7</sup> Comprises NovoNorm<sup>®</sup> and needles; <sup>8</sup> Comprises primarily NovoSeven<sup>®</sup>, NovoEight<sup>®</sup>, NovoThirteen<sup>®</sup> and Norditropin<sup>®</sup>

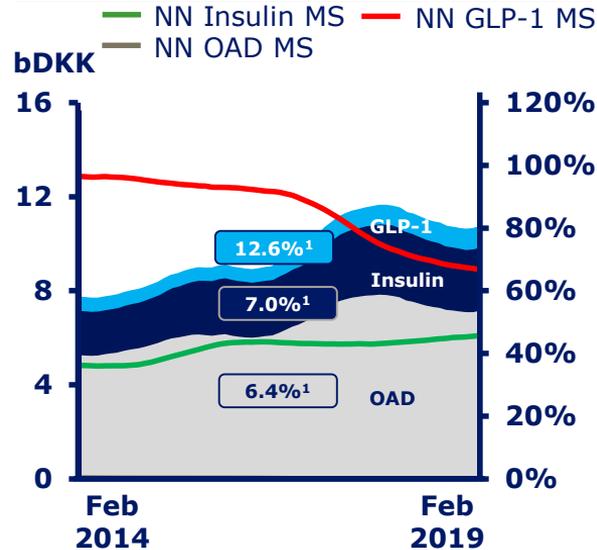


# Region Latin America at a glance

## Diabetes trend in population



## Diabetes market by value and Novo Nordisk market share



## Novo Nordisk reported sales

Q1 2019	Sales (mDKK)	Growth <sup>2</sup>
Long-acting insulin <sup>3</sup>	190	14%
Premix insulin <sup>4</sup>	30	(3%)
Fast-acting insulin <sup>5</sup>	131	77%
Human insulin	240	57%
<b>Total insulin</b>	<b>591</b>	<b>40%</b>
GLP-1 <sup>6</sup>	159	35%
Other diabetes <sup>7</sup>	14	(17%)
<b>Diabetes</b>	<b>764</b>	<b>37%</b>
Obesity (Saxenda®)	159	90%
<b>Biopharmaceuticals<sup>8</sup></b>	<b>388</b>	<b>(17%)</b>
<b>Total</b>	<b>1,311</b>	<b>20%</b>

Latin America population 2018: ~0.6 billion people and diabetes prevalence ~9.3%  
Source: International Diabetes Federation: Diabetes Atlas 1<sup>st</sup> Edition 2000 and Diabetes Atlas 8<sup>th</sup> Edition 2017

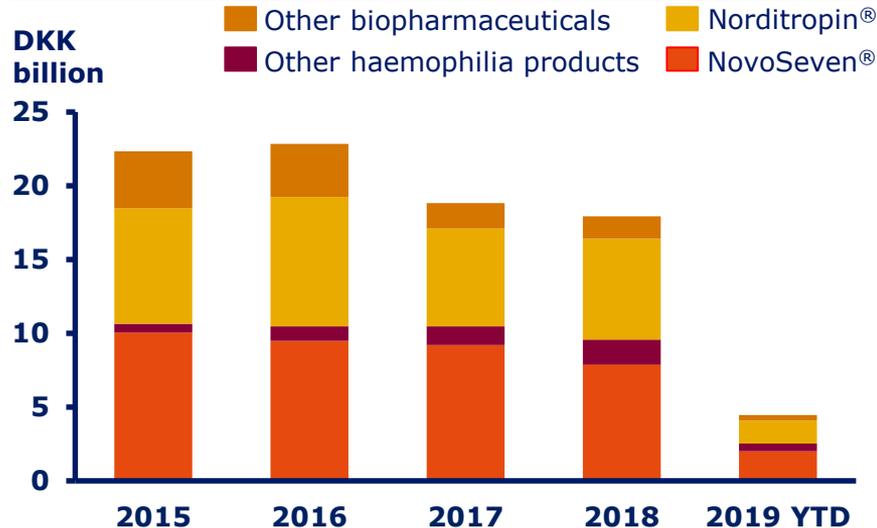
<sup>1</sup> CAGR calculated for last 5-year period  
Competitor insulin value market shares, as on Feb 2019: Novo Nordisk 47%, Sanofi 31% and Eli Lilly 17%  
Competitor GLP-1 value market shares, as on Feb 2019: Novo Nordisk 65%, Eli Lilly 35% and AstraZeneca 1%  
OAD: Oral anti-diabetic; MS: Market share  
Source: IQVIA MAT, Feb 2019 value figures

<sup>2</sup> At constant exchange rates

<sup>3</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>4</sup> Comprises NovoMix® and Ryzodeg®; <sup>5</sup> Comprises NovoRapid®; <sup>6</sup> Comprises Victoza®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Comprises primarily NovoSeven®, NovoEight® and Norditropin®

# Biopharm constitutes 15% of Novo Nordisk sales and the 'return to growth' strategy is well on track

## NovoSeven® and Norditropin® account for 80% of Biopharm sales<sup>1</sup>



<sup>1</sup> Reported sales for Q1 2019

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

Return to  
growth  
in Biopharm



Drive in-market brands 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

# Novo Nordisk R&D strategy and priorities

## STRATEGIC PRIORITIES

Strengthen leadership in  
**DIABETES**

Strengthen leadership in  
**OBESITY**

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 >20% weight loss

 • Pursue subcutaneous bypassing and mimicking agents

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

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

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

CKD: Chronic kidney disease; CVD: Cardiovascular disease; NASH: Non-alcoholic steatohepatitis; R&D: Research and development

# Pipeline supports significant growth opportunities across all four strategic focus areas

## PHASE 1

NN1535 – LAIsema  
 NN9023 – OG2023SC  
 NN9747 – PYY 1562 analogue  
 NN9277 – GG-co-agonist  
 NN9423 – Tri-agonist 1706  
 NN9775 – PYY 1875 analogue  
 NN7533 - Eclipse

## PHASE 2

NN1436 – LAI287  
 Anti-IL-21 and liraglutide  
 NN9838 – Amylin AM833  
 Concizumab  
 Somapacitan – QW GHD<sup>1</sup>  
 Semaglutide NASH

## PHASE 3

Semaglutide obesity  
 Somapacitan – QW AGHD<sup>2</sup>

## SUBMITTED

Oral semaglutide

## APPROVED

Tresiba®  
 Xultophy®  
 Levemir®  
 Ryzodeg®  
 NovoMix®  
 Fiasp®  
 NovoRapid®  
 Victoza®  
 Ozempic®  
 Saxenda®  
 NovoSeven®  
 NovoEight®  
 NovoThirteen®  
 Refixia®  
 Esperoct® (N8-GP)<sup>3</sup>  
 Norditropin®

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

<sup>1</sup> Study conducted in growth hormone disorders; <sup>2</sup> Study conducted in adult growth hormone disorder; <sup>3</sup> Esperoct® (N8-GP) approved in the USA, endorsed by the EU CHMP and submitted in Japan  
 QW: Once-weekly; GG: Glucagon GLP-1; Sc: Subcutaneous; QD: Once-daily; CHMP: Committee for Medicinal Products for Human Use

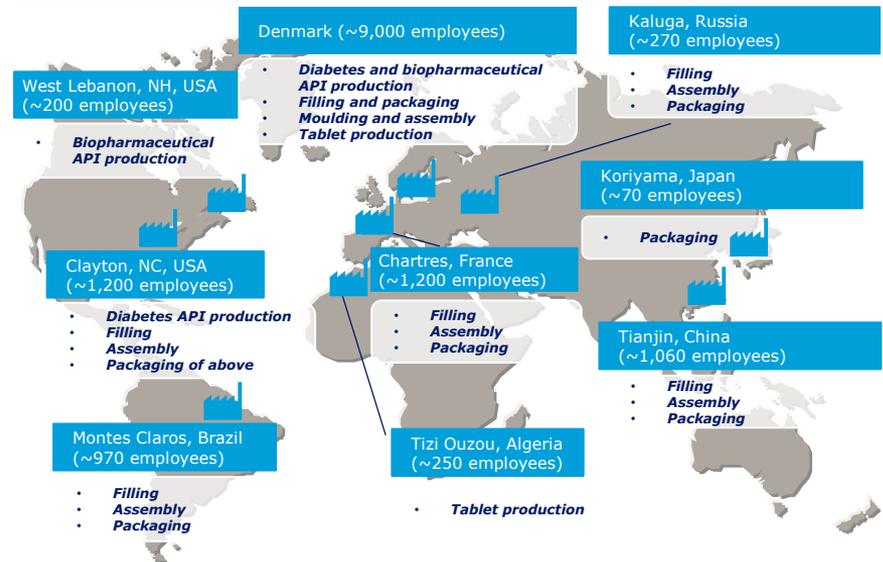
# Growth opportunities supported by strong global presence in both sales and manufacturing

## Employees in sales regions<sup>1</sup>

North America Operations:	~4,300
Region AAMEO:	~4,650
Region China:	~3,300
Region Europe:	~2,900
Region Japan & Korea:	~1,100
Region Latin America:	~1,000

**Total non-HQ/manufacturing employees: ~18,700<sup>1</sup>**

## Global manufacturing setup



<sup>1</sup> Employees represent full-time equivalents in Novo Nordisk's sales regions (excludes all other employees in headquarter, research sites and manufacturing sites) as of March 2019  
AAMEO: Africa, Asia, the Middle East and Oceania.

# Solid patent protection of innovative drugs

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

	EU patent protection <sup>1</sup>	US patent protection <sup>1</sup>
<b>OZEMPIC</b> semaglutide injection	2031	2031
<b>Fiasp</b> fast-acting insulin aspart	2030	2030
<b>esperoct</b> turoctocog alfa pegol	2034	2032
<b>Xultophy</b> insulin degludec/insulin aspart U595 oral pre-mixed injection	2028	2029
<b>TRESIBA</b> insulin degludec (DNA origin) injection	2028	2029
<b>RYZODEG</b> 70% insulin degludec and 30% insulin aspart U595 oral pre-mixed injection	2028	2029
<b>refixia</b>	2028	2027
<b>VICTOZA</b>	2023 <sup>2</sup>	2023 <sup>2,3</sup>
<b>Levemir</b> (insulin detemir)	2019	2019
<b>NovoMix</b> (biphasic insulin aspart)	Expired <sup>4</sup>	Expired <sup>5</sup>
<b>NovoRapid</b> (insulin aspart)	Expired <sup>6</sup>	Expired <sup>7</sup>
<b>norditropin</b>	Expired <sup>8</sup>	Expired <sup>8</sup>

<sup>1</sup> List does not include all marketed products. <sup>2</sup> Including six months paediatric extension. <sup>3</sup> Licensed to Teva from June 2024 (assuming grant of paediatric extension). <sup>4</sup> Expired in 2015. <sup>5</sup> Expired in 2014.

<sup>6</sup> Expired in 2011. <sup>7</sup> Expired in 2014. <sup>8</sup> Expired in 2017

Note: Saxenda® patent identical to Victoza® patent.

## Barriers to entry for biosimilar players

### Research & Development

- Need to show comparability in PK/PD trials
- Strict regulatory requirements in the EU and the USA
- 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



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# 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

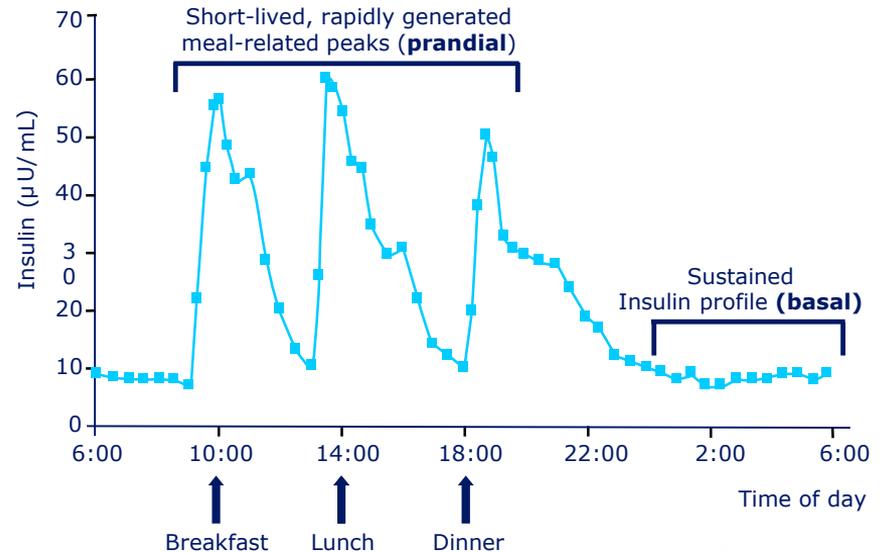
**Type 2 diabetes:** Characterised by some degree of insulin resistance and insulin deficiency

### 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

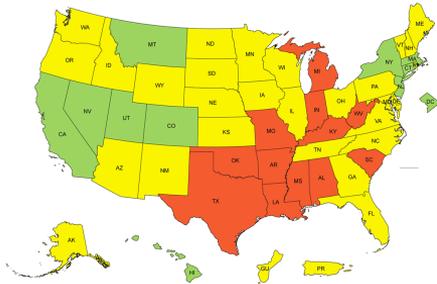


# Diabetes pandemic is fuelled by growing rates of obesity

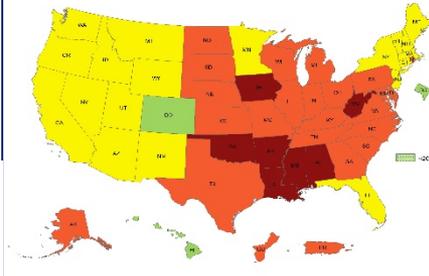
## Obesity prevalence has increased in recent years



2011



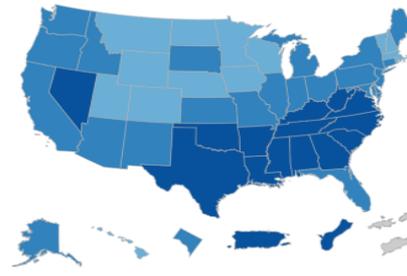
2016



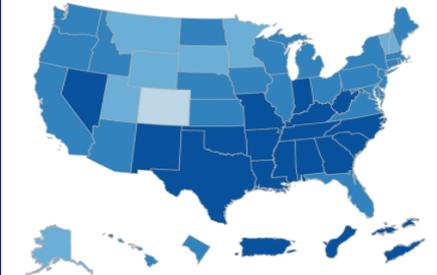
## Diabetes prevalence has increased in recent years



2011



2016



Source: CDC's Division of Nutrition, Physical Activity, and Obesity.

<https://www.cdc.gov/obesity/data/prevalence-maps.html>

Note: Obesity is defined as BMI  $\geq 30$  kg/m<sup>2</sup>. Data were collected through BRFSS.

CDC: US National Center for Chronic Disease Prevention and Health Promotion; BRFSS: Behavioral Risk Factor Surveillance System

changing  
diabetes®

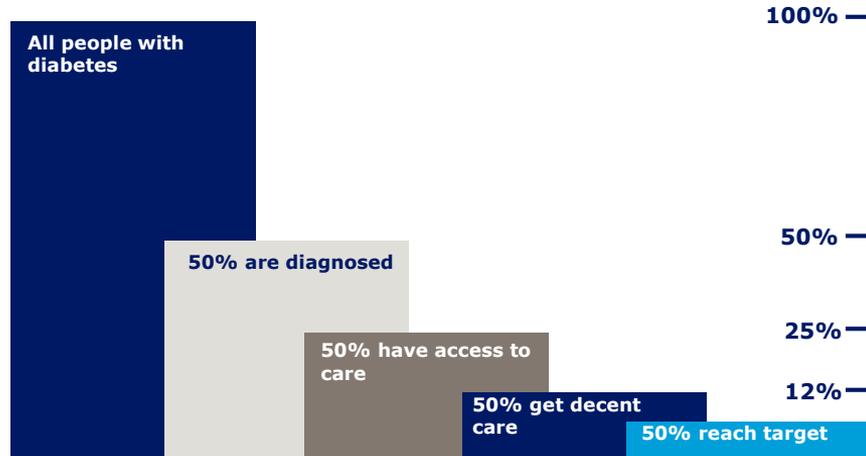
CDC: Centers for Disease Control and Prevention

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

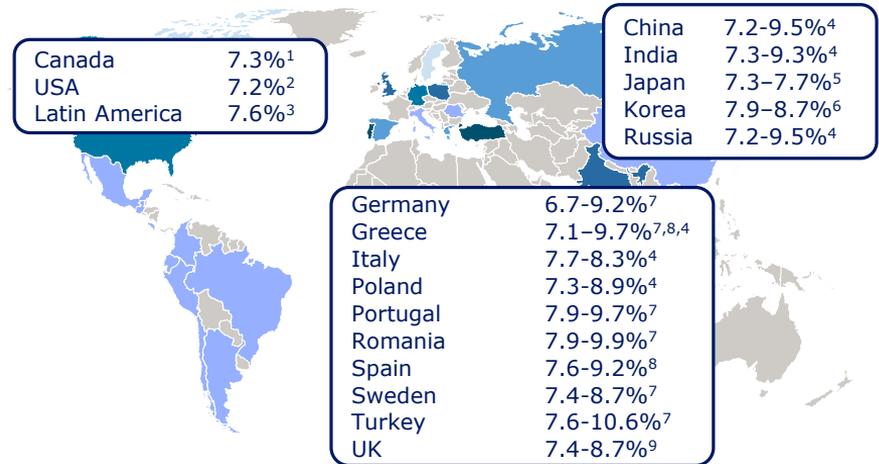


# Poor diagnosis rates, lack of access to optimal treatment and poor glycaemic control remain global problems

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

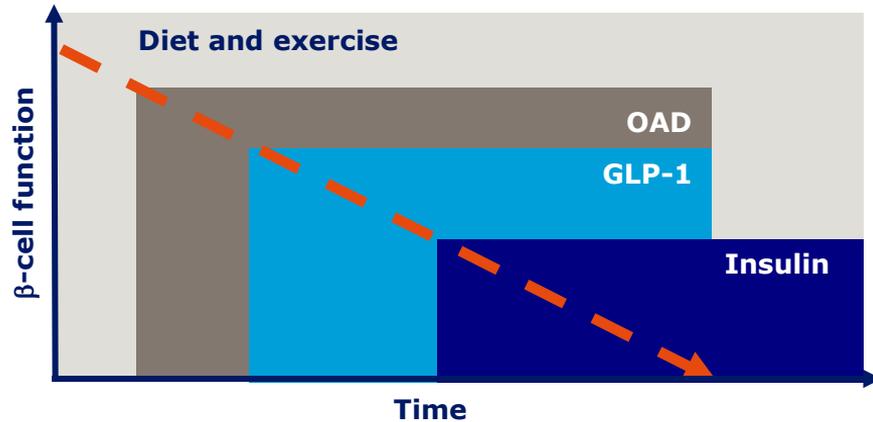


## The worldwide challenge of glycaemic control: Mean HbA<sub>1c</sub> in type 2 diabetes



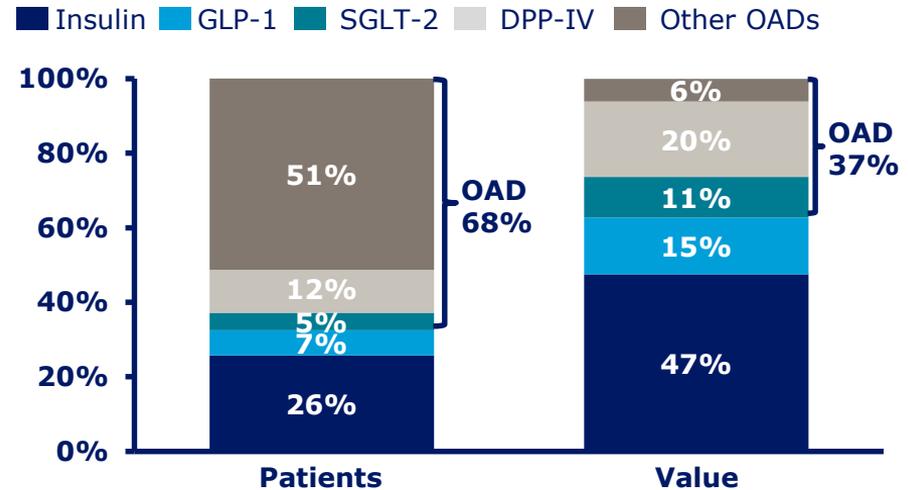
# Insulin is the ultimate care for people with diabetes

## Progression of type 2 diabetes and treatment intensification



OAD: Oral anti-diabetic

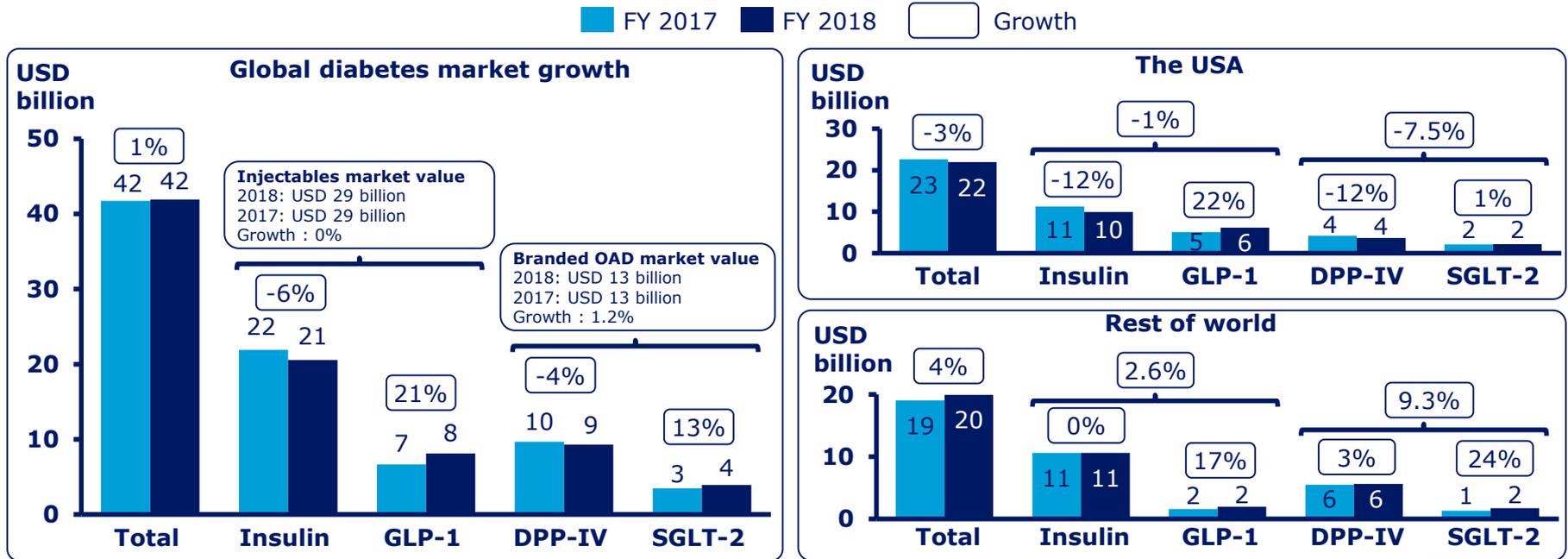
## Distribution of patients and value across treatment classes



Note: Patient distribution across treatment classes is indicative and based on data for the USA, the UK, Germany and France. Other OADs covers: Metformin, Sulfonylurea, Thiazolidinediones. Numbers do not add up to 100% due to rounding

Source: IQVIA PharMetrix claims data, IQVIA disease analyser, IQVIA MIDAS; value figures based on IQVIA MAT, Feb 2019

# The total branded diabetes market has a global value of USD ~42 billion annually



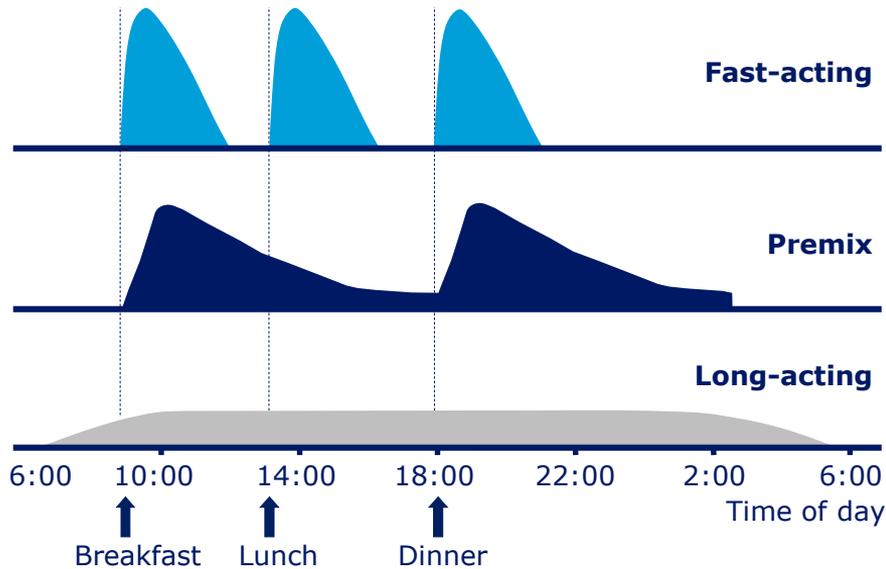
FY: Full Year

Note: Constant exchange rates between periods and Boehringer Ingelheim's regional split is based on regional split from 2018 Annual report for prescription medicine

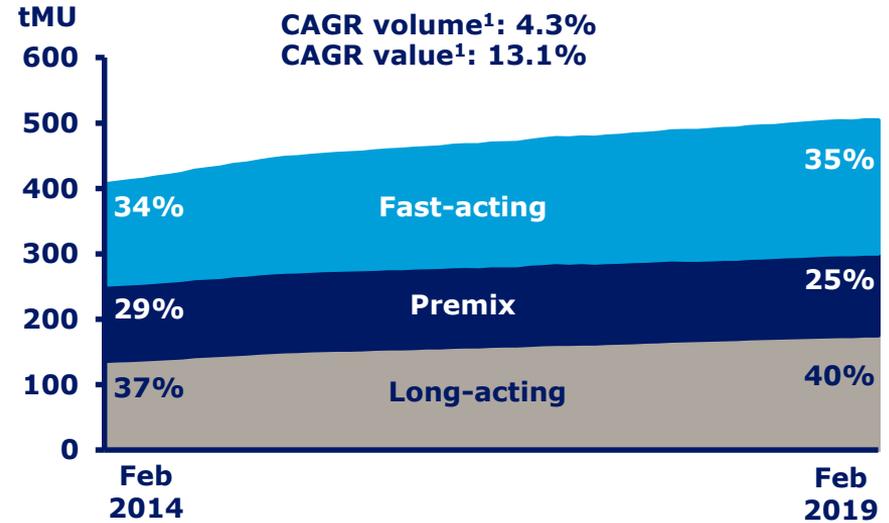
Source: Company reported sales

# The insulin market is comprised of three segments

## Insulin action profiles



## Global insulin volume market by segment



<sup>1</sup> CAGR for 5-year period. Value in DKK  
 Source: IQVIA monthly MAT volume and value, Feb 2019

# Medications used for treatment of type 2 diabetes

## Commonly prescribed product classes for the treatment of type 2 diabetes

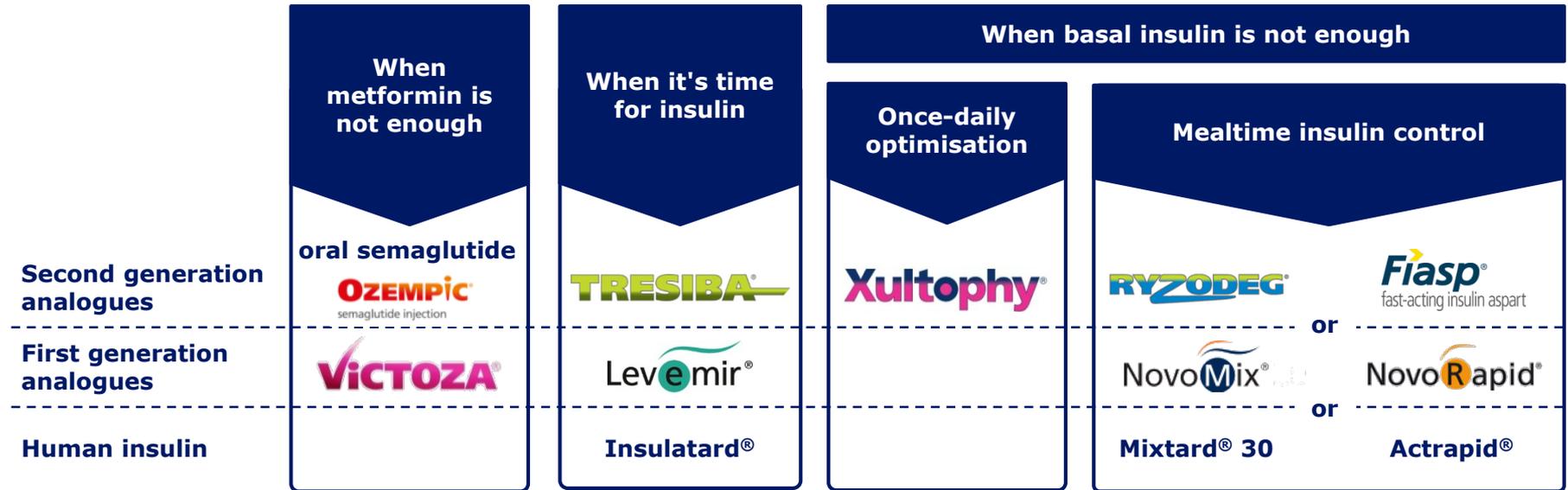
Class	HbA <sub>1c</sub> change	Hypoglycaemia risk	Weight change	CVD risk	Dosing (per day)	Contraindication/undesired effects
Metformin	1.5	No	Neutral	Minimal	2 OADs	Kidney, liver
Sulfonylurea	1.5	Yes	Gain	None	1 OAD	Essentially none
TZDs	0.5 - 1.4	No	Gain	Varies	1 OAD	CHF, liver
DPP-IV inhibitors	0.6 - 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: Gastrointestinal; MTC: Medullary thyroid cancer; TZD: thiazolidinediones; OAD: Oral anti-diabetic; TBD: to be defined; CVD: Cardiovascular disease.

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.

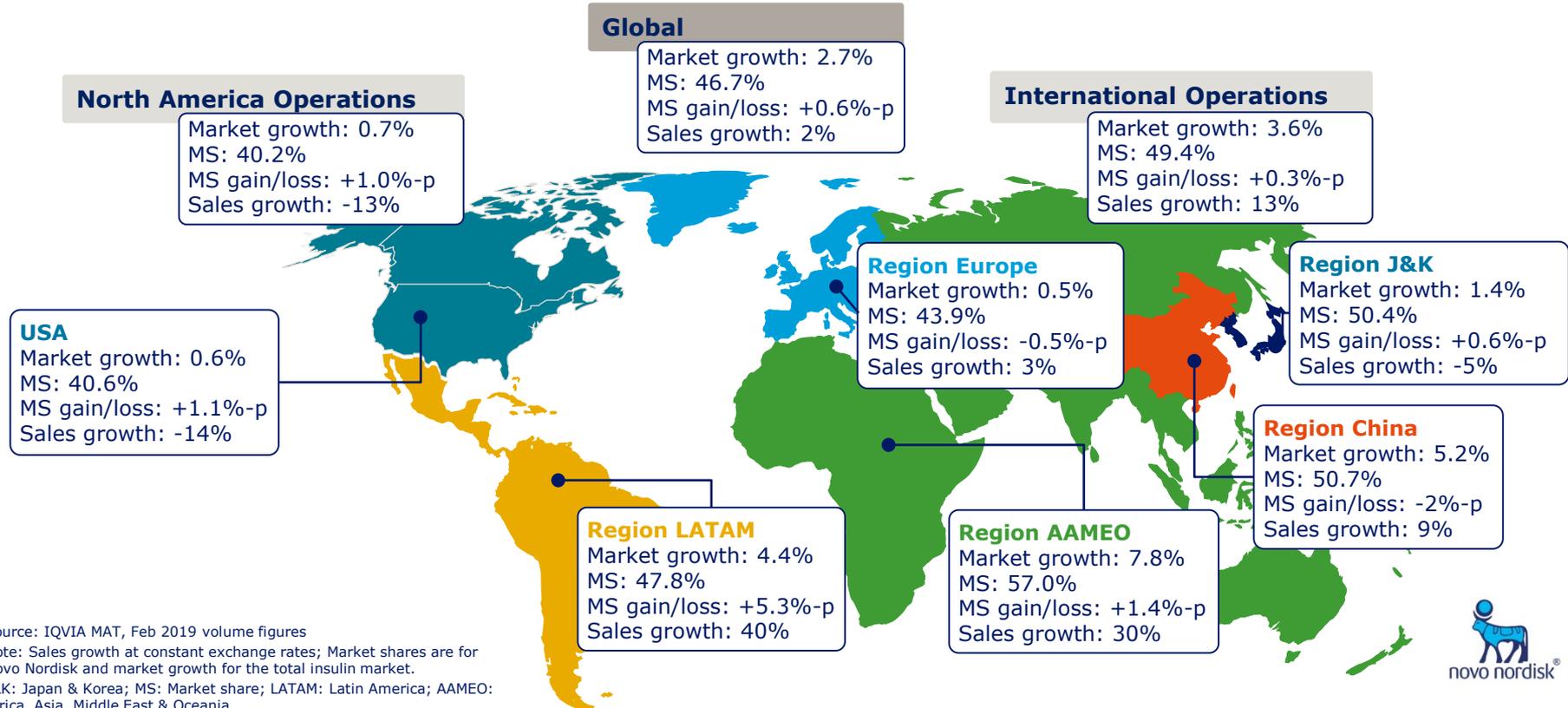
# Novo Nordisk's current and future product portfolio covers the type 2 diabetes treatment cascade<sup>1</sup>

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



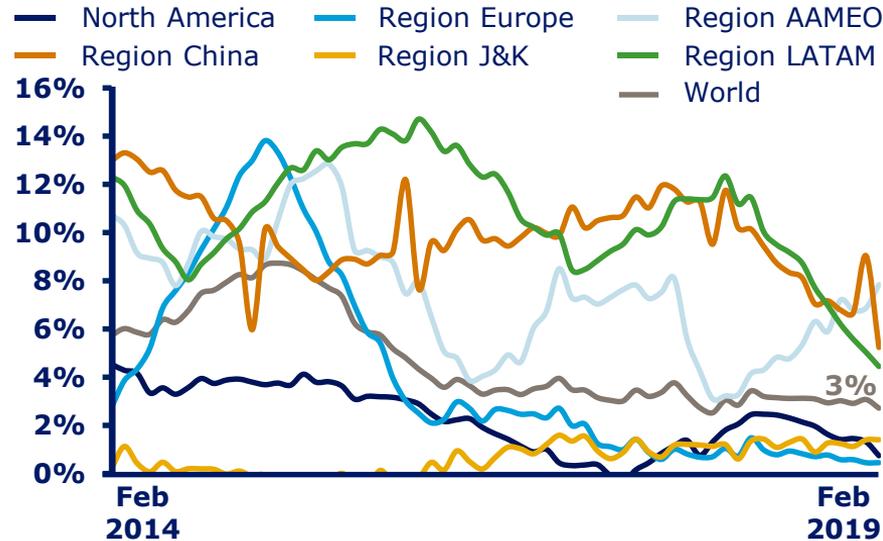
<sup>1</sup> Pending clinical development programmes and regulatory processes for oral semaglutide

# Global insulin market leadership expanded by 0.6%-point to 46.7% and the global insulin volume market grew by 2.7%

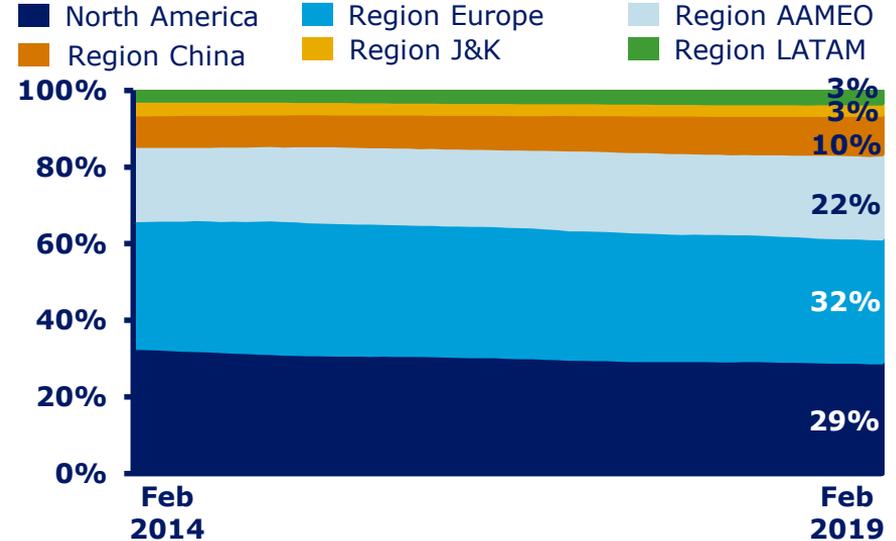


# Stable global insulin volume growth

## Regional insulin volume growth



## Regional insulin volume market split

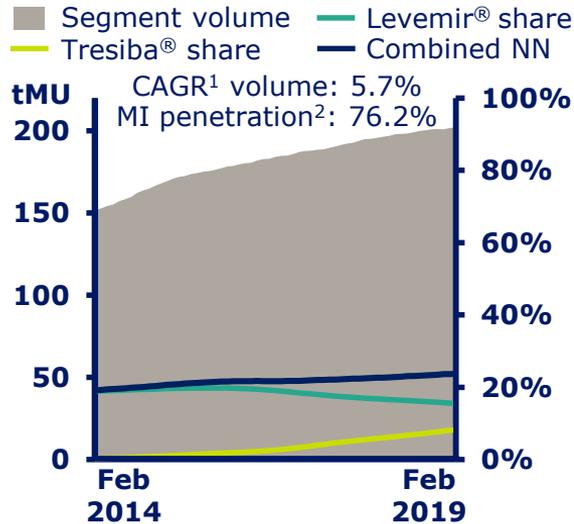


J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle East and Oceania; LATAM: Latin America  
 Note: Data is sensitive to changes in IQVIA data collection and reporting methodology  
 Source: IQVIA monthly MAT, Feb 2019 volume figures

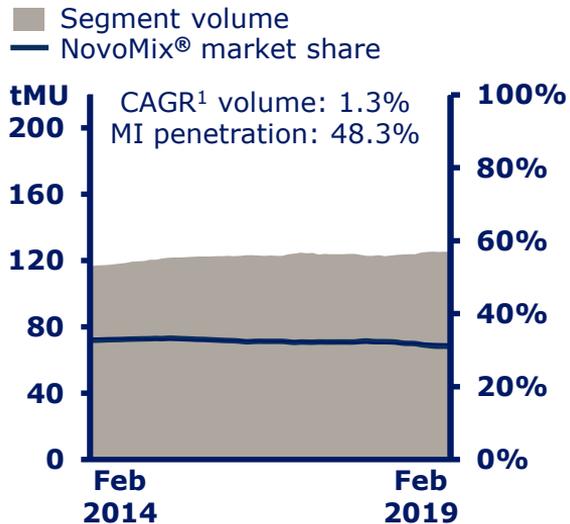
Note: Data is sensitive to changes in IQVIA data collection and reporting methodology  
 Source: IQVIA monthly MAT, Feb 2019 volume figures  
 Figures do not add up to 100% due to rounding  
 J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle East and Oceania; LATAM: Latin America

# Continued single digit volume growth within the insulin segments globally

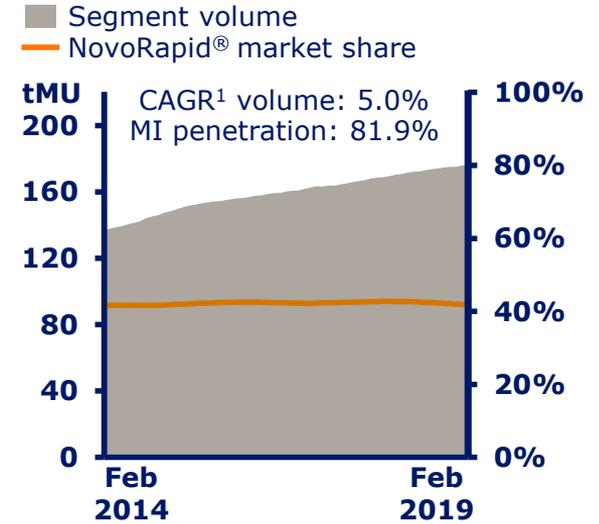
## Long-acting insulin



## Premix insulin



## Fast-acting insulin



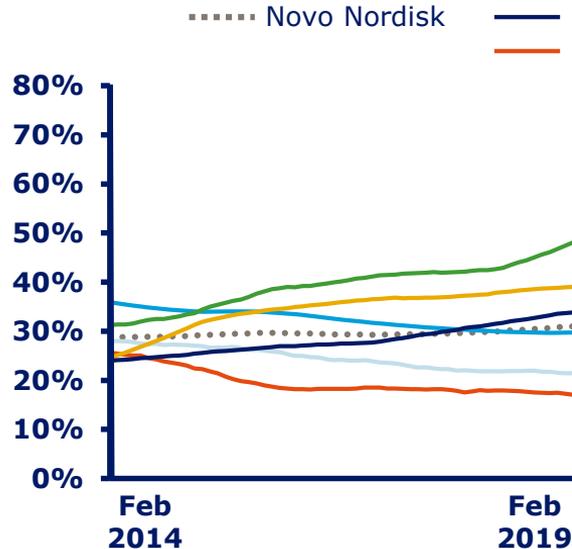
<sup>1</sup> CAGR for 5-year period; <sup>2</sup> Includes new-generation insulin. tMU: Thousand mega units; NN: Novo Nordisk

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

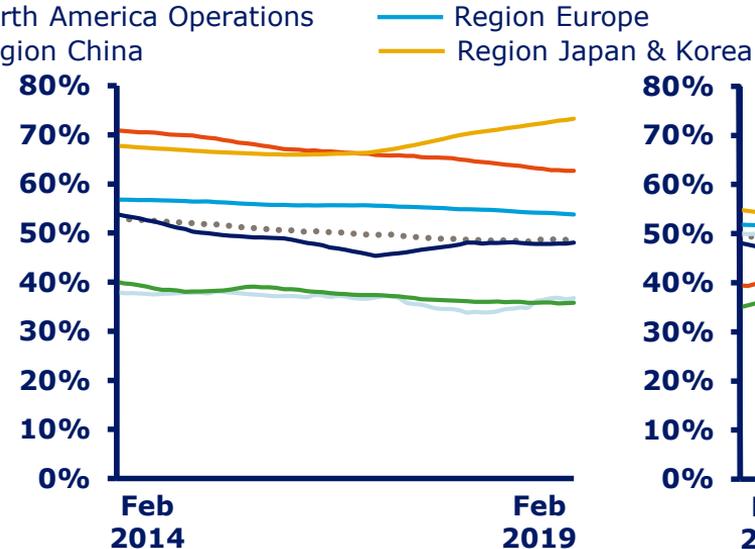
Source: IQVIA MAT, Feb 2019 volume figures

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

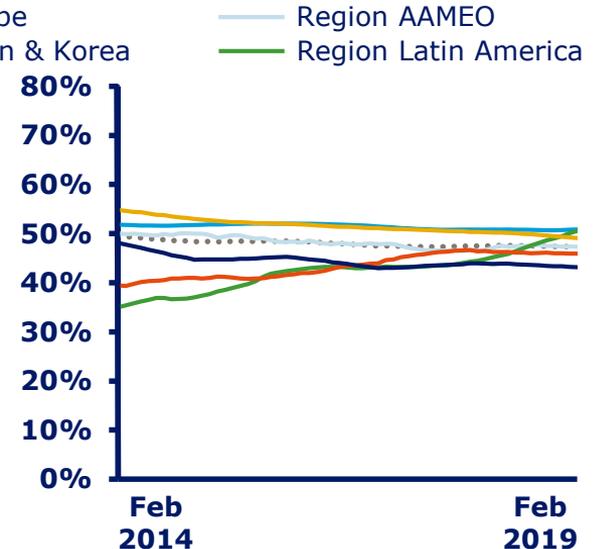
## Long-acting insulin<sup>1</sup> volume market share across regions



## Premix insulin<sup>2</sup> volume market share across regions



## Fast-acting insulin<sup>3</sup> volume market share across regions



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

<sup>2</sup> Premix insulin includes: Ryzodeg®, NovoMix® and Mixtard® 30 (premix human insulin). Please note that not all products are launched in all markets

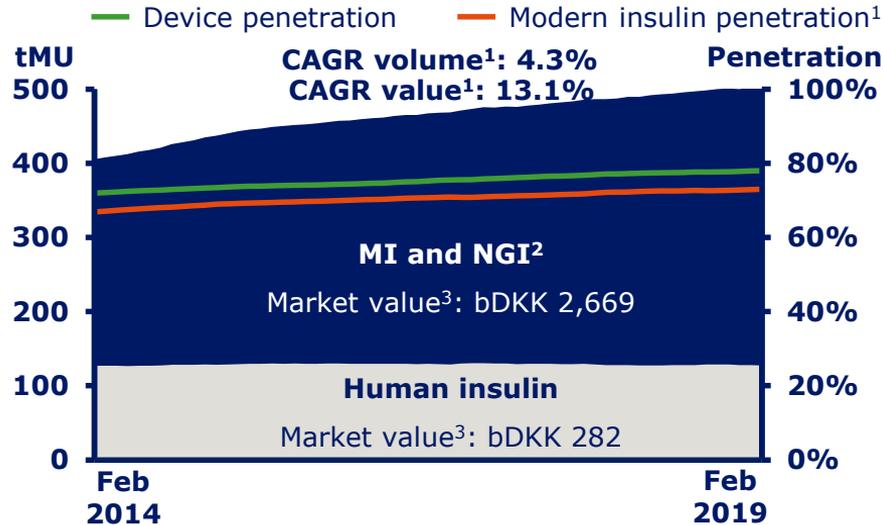
<sup>3</sup> Fast-acting insulin includes: Fiasp®, NovoLog® and Actrapid® (bolus human insulin). Please note that not all products are launched in all markets

Source: IQVIA monthly MAT Feb, 2019 volume figures

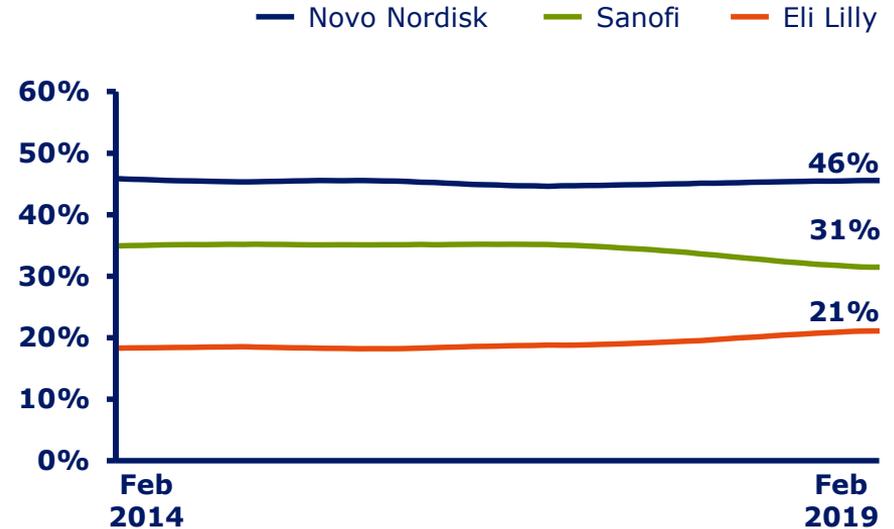
AAMEO: Africa, Asia, Middle East and Oceania

# Stable global insulin market growth and Novo Nordisk sustains global volume market share leadership

## Global insulin market



## Global modern and new-generation insulin volume market shares



<sup>1</sup> CAGR for 5-year period; <sup>2</sup> MI: Modern insulin; NGI: New-generation insulin

<sup>3</sup> Annual gross value of total insulin class

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

Source: IQVIA monthly MAT, Feb 2019 volume and value figures

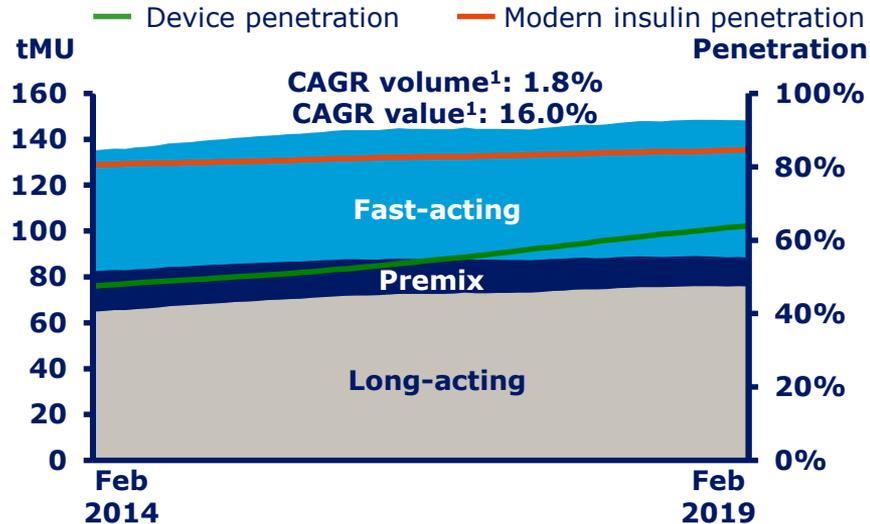
Note: Data is sensitive to changes in IQVIA data collection and reporting methodology. Numbers do not add up to 100% as only the largest insulin manufacturers are included

Source: IQVIA monthly MAT, Feb 2019 volume figures

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

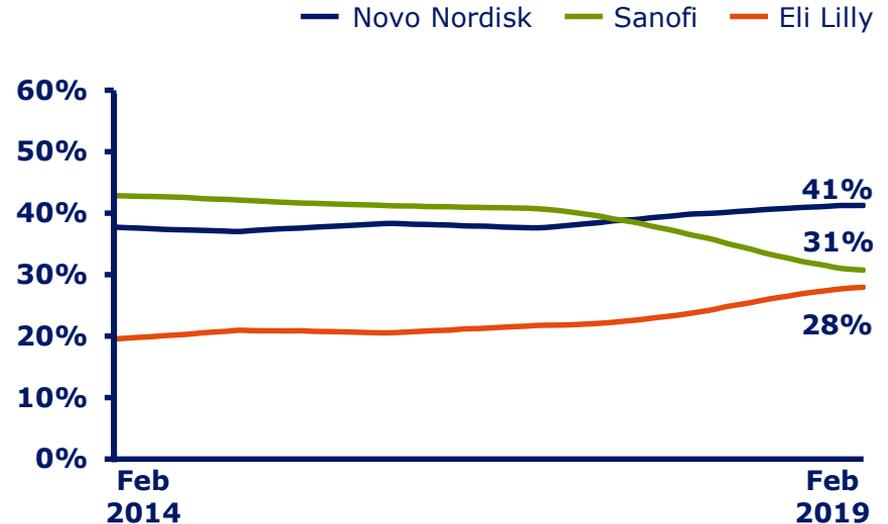


## USA insulin market by segment



<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 volume and value figures

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

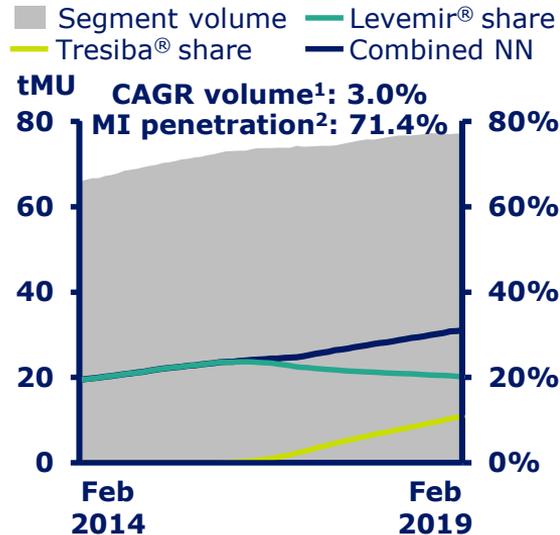


Note: Data is sensitive to changes in IQVIA data collection and reporting methodology, does not add up to 100% as only selected pharmaceutical companies are included  
Source: IQVIA monthly MAT, Feb 2019 volume figures

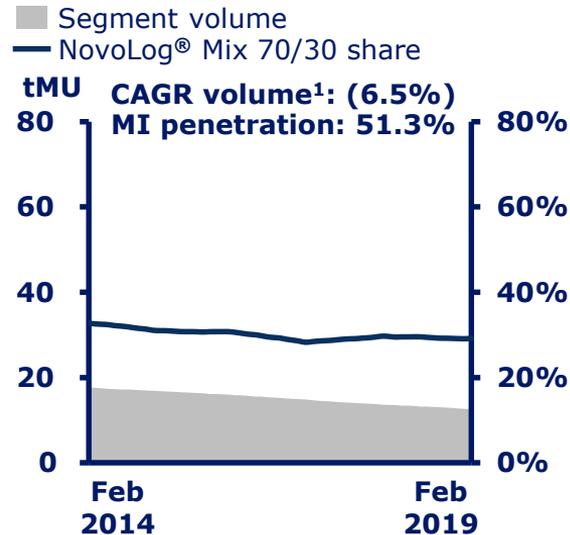
# Novo Nordisk increases volume market share in the US long-acting insulin segment



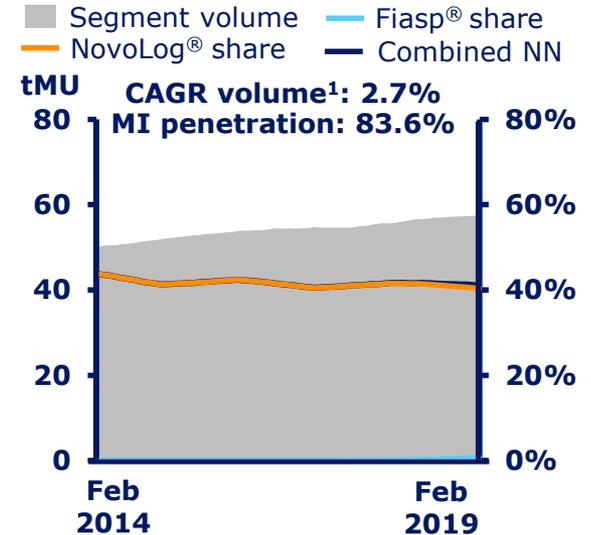
## USA long-acting insulin



## USA premix insulin



## USA fast-acting insulin



<sup>1</sup> CAGR for 5-year period; <sup>2</sup> Includes new-generation insulin. tMU: Thousand mega units

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

Source: IQVIA monthly MAT, Feb 2019 volume figures

NN: Novo Nordisk

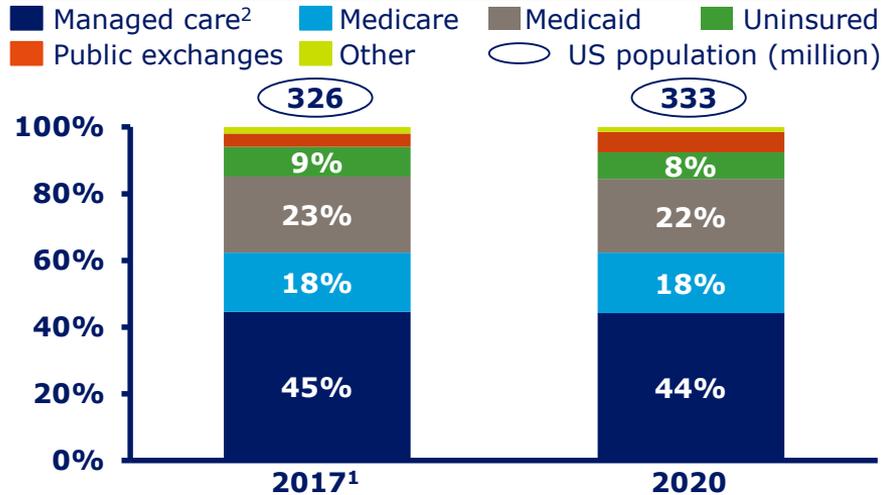
changing  
diabetes®



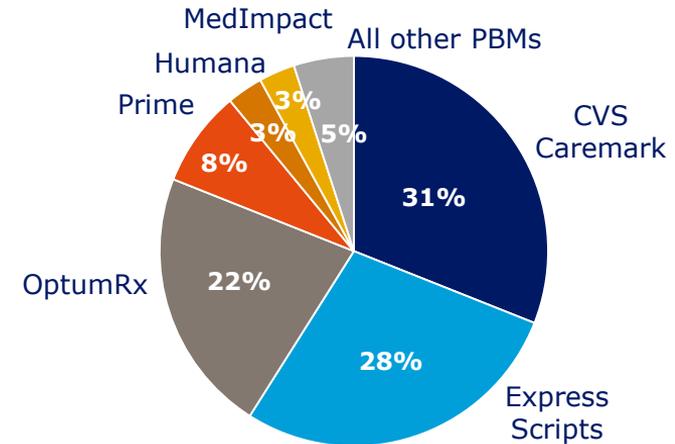
# US health insurance is dominated by few large commercial payers with slow expansion of public insurance coverage



## The 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



<sup>1</sup> 2017 data reflect historical data through Oct 2017

<sup>2</sup> Managed care population is slightly underestimated as only population under the age 65 is 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 Fact sheet 2017; CDC.gov

PBM: Pharmacy Benefit Manager

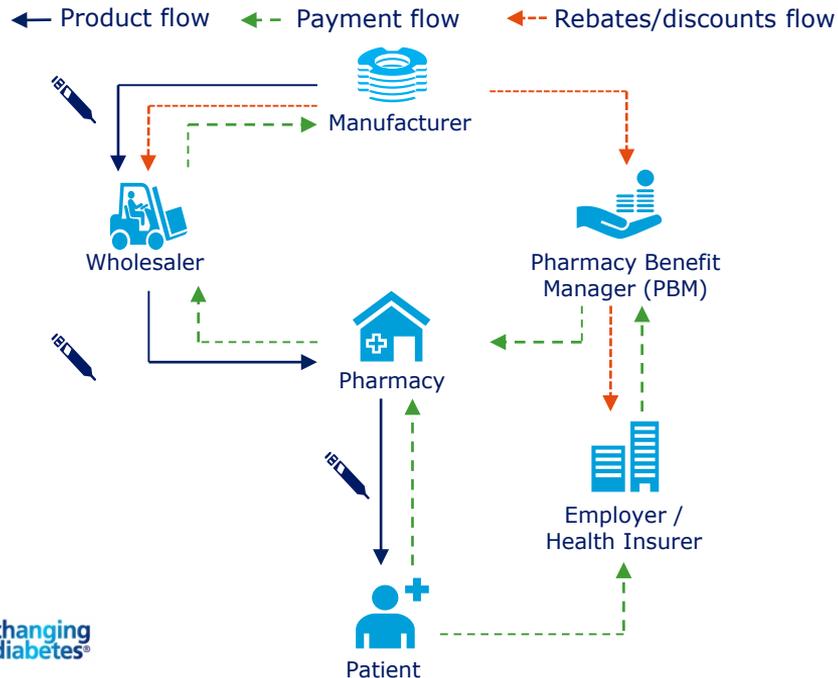
Note: Covers all main channels (Managed Care, Medicare Part D, and Medicaid); market share based on claim adjudication coverage, i.e. not on formulary/rebate decision power  
 Sources: Cleveland Research



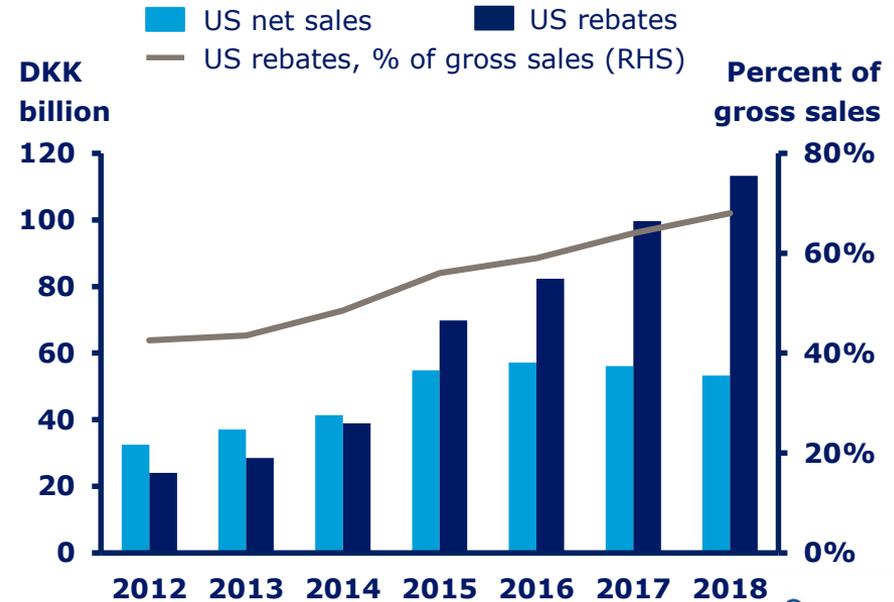
# The US healthcare system is complex and rebates paid by Novo Nordisk have increased significantly in recent years



## Illustrative example of the US healthcare system



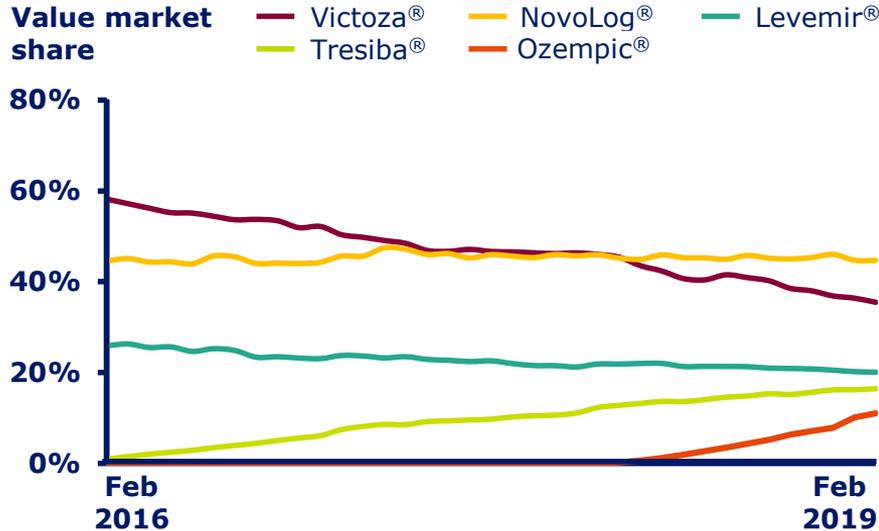
## Development of Novo Nordisk rebates and net sales in the USA



Note: Based on reported sales  
RHS: Right hand side

# Novo Nordisk's key diabetes products remain broadly available in the USA

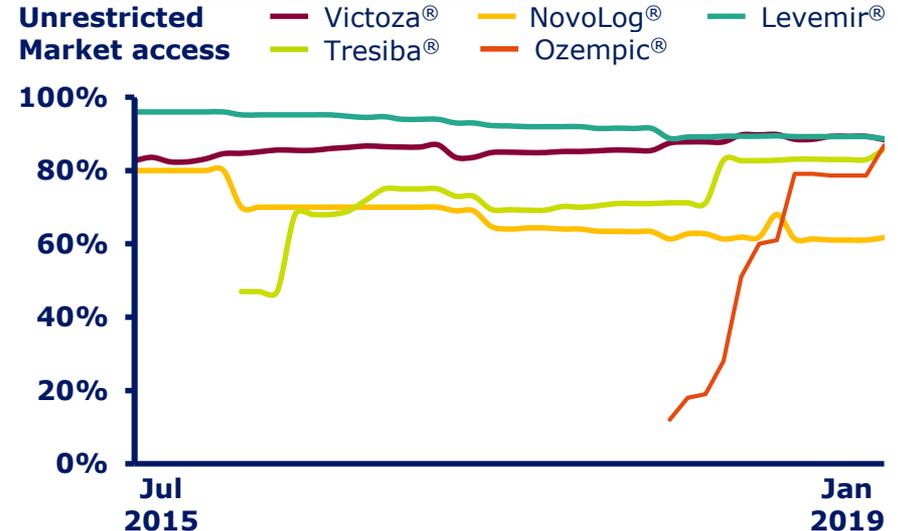
## Value market shares of Novo Nordisk key products in the USA



Source: IQVIA NSP, Feb 2019;

Note: Market shares: NovoLog®: share of rapid acting insulin segment; Levemir®: share of basal insulin segment; Tresiba®: share of basal insulin segment; Victoza® and Ozempic®: share of GLP-1 segment

## Share of unrestricted market access of Novo Nordisk key products in the USA



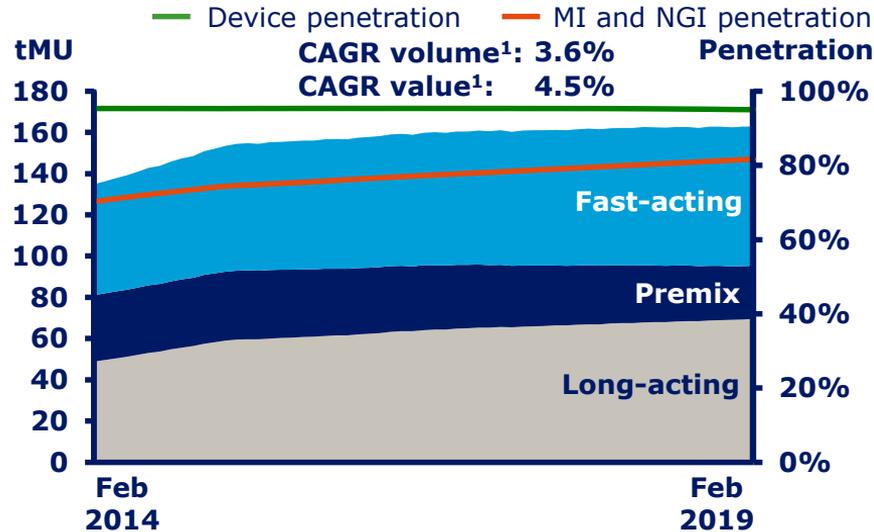
Source: FingerTip Formulary bridge, Jan 2019 Nomenclature and Xponent PlanTrak; only considers bridged volume; excludes cash and mail order data;

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 Jan 2016, Ozempic® launched in Jan 2018.

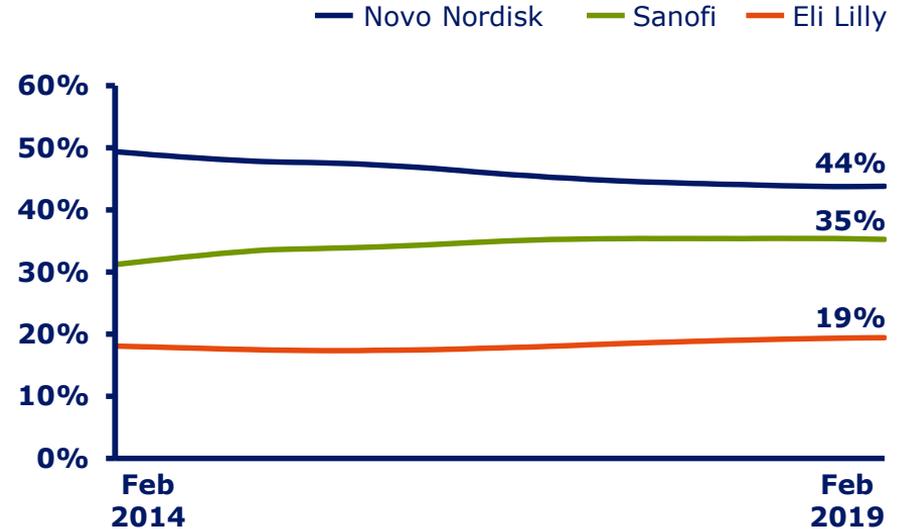
# Sustained leadership position in the European modern and new-generation insulin market



## European insulin market by segment



## European modern insulin and new-generation insulin volume market shares



<sup>1</sup> CAGR for 5-year period

<sup>2</sup> MI: Modern insulin; NGI: New-generation insulin

Source: IQVIA monthly MAT, Feb 2019 volume and value figures

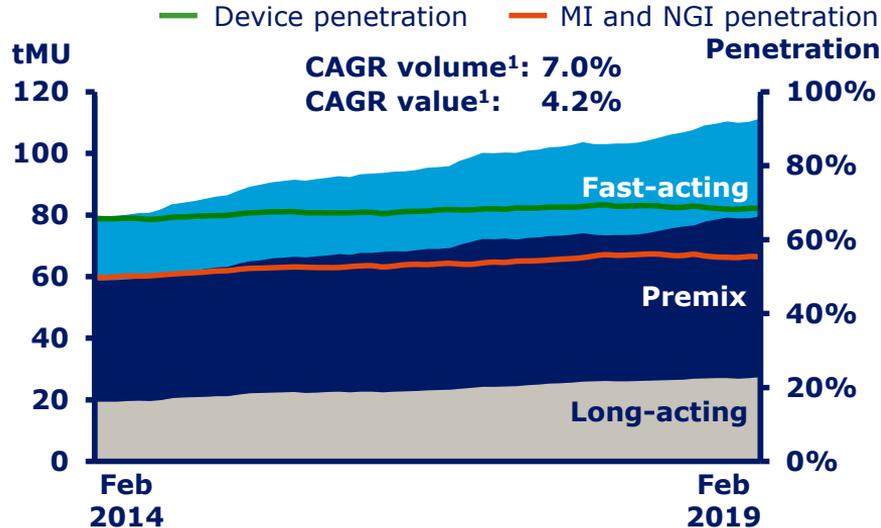
Source: IQVIA monthly MAT, Feb 2019 volume figures.

Note: Numbers do not add up to 100% due to smaller insulin manufacturers

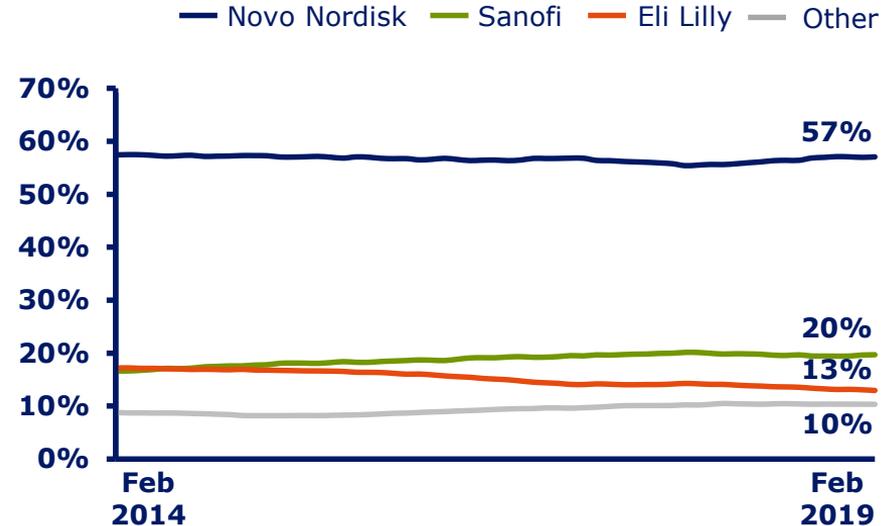
# Stable insulin leadership position in Region AAMEO



## Region AAMEO insulin market by segment



## Region AAMEO modern and new-generation insulin volume market shares



<sup>1</sup> 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 and Turkey, which together accounts for 82% of Novo Nordisk insulin sales in Region AAMEO

Source: IQVIA monthly MAT, Feb 2019 volume and value figures

AAMEO: Africa, Asia, the Middle East & Oceania; MI: Modern insulin; NGI: New-generation insulin

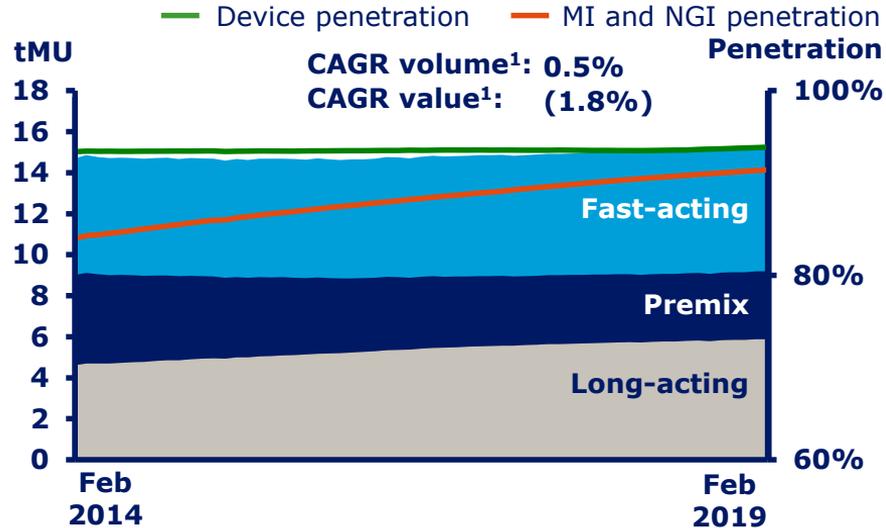
Source: IQVIA monthly MAT, Feb 2019 volume figures



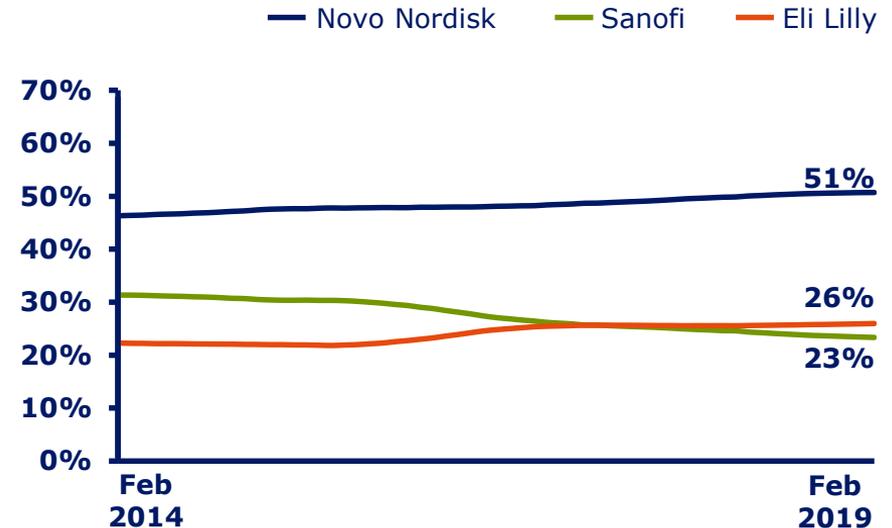
# Stable insulin market leadership position in Region Japan & Korea



## Region Japan & Korea insulin market by segment



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



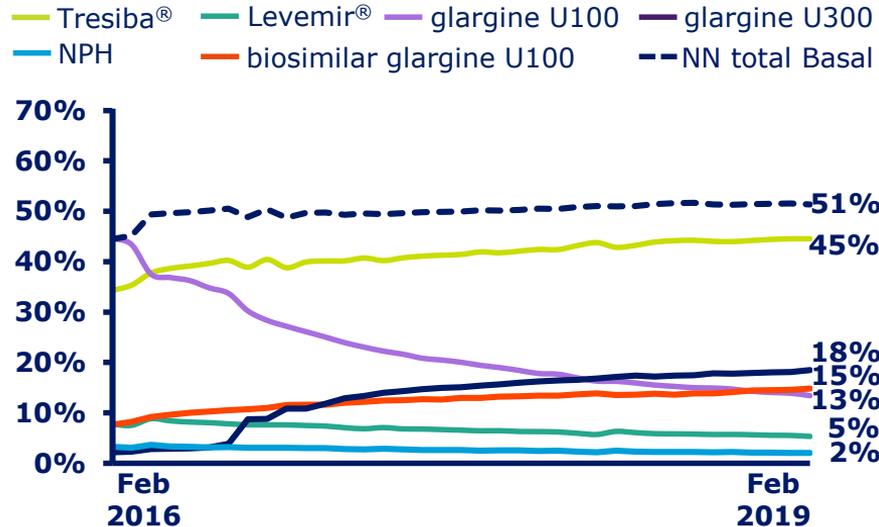
<sup>1</sup> CAGR for 5-year period  
MI: Modern insulin; NGI: New-generation insulin  
Source: IQVIA monthly MAT, Feb 2019 volume and value figures

Source: IQVIA monthly MAT, Feb 2019 volume figures

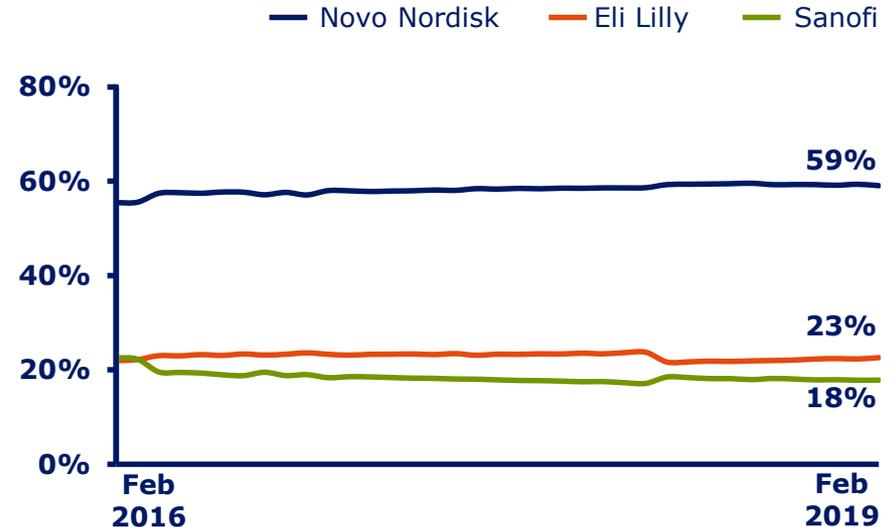
# Solid Tresiba® performance strengthens basal insulin market share in Japan



## Japanese basal value market shares



## Japanese total insulin value market shares



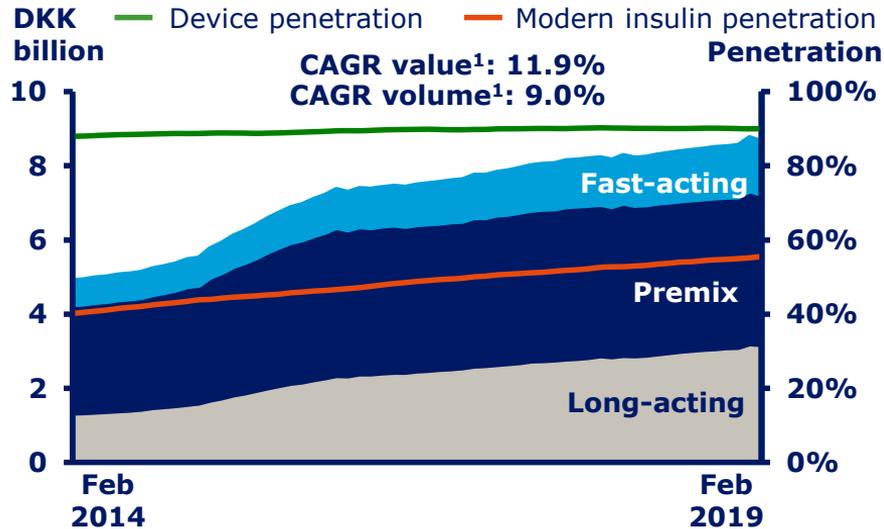
Source: IQVIA monthly MAT, Feb 2019 value figures  
NPH: Novolin®

Source: IQVIA monthly MAT, Feb 2019 value figures

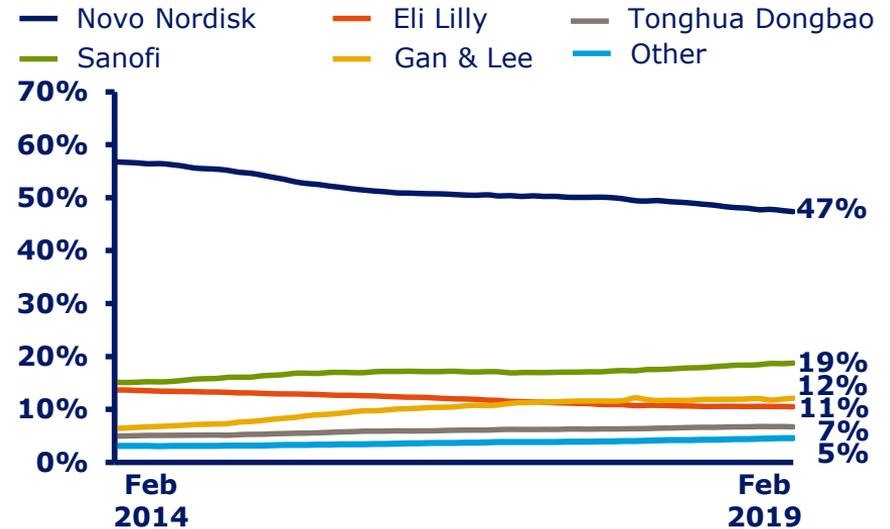
# Continued value and volume growth in the Chinese insulin segments



## Chinese insulin market by segment



## Chinese total insulin value market shares



<sup>1</sup> CAGR for 5-year period

Note: IQVIA covers around 50% of the total Chinese market (hospital data)

Source: IQVIA Rolling MAT, Feb 2019 value figures

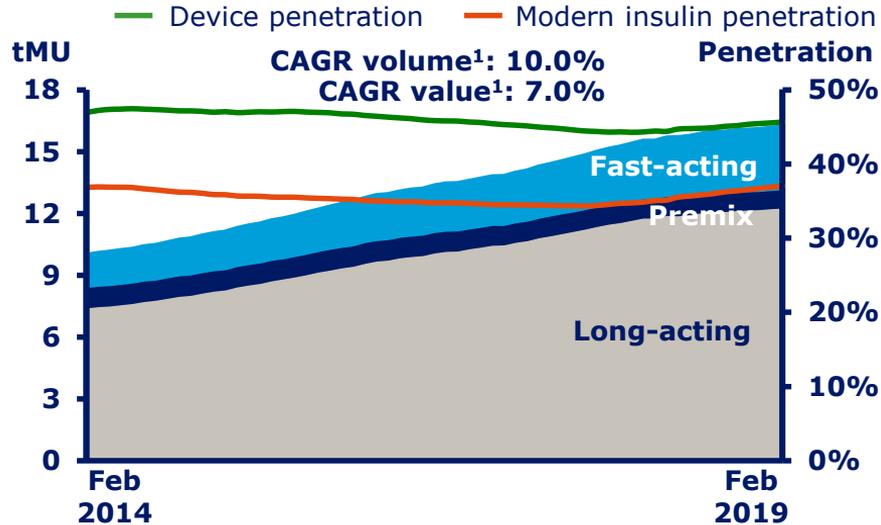
Note: Only selected competitors. Numbers do not add up to 100% due to rounding

Source: IQVIA Rolling MAT, Feb 2019 value figures.

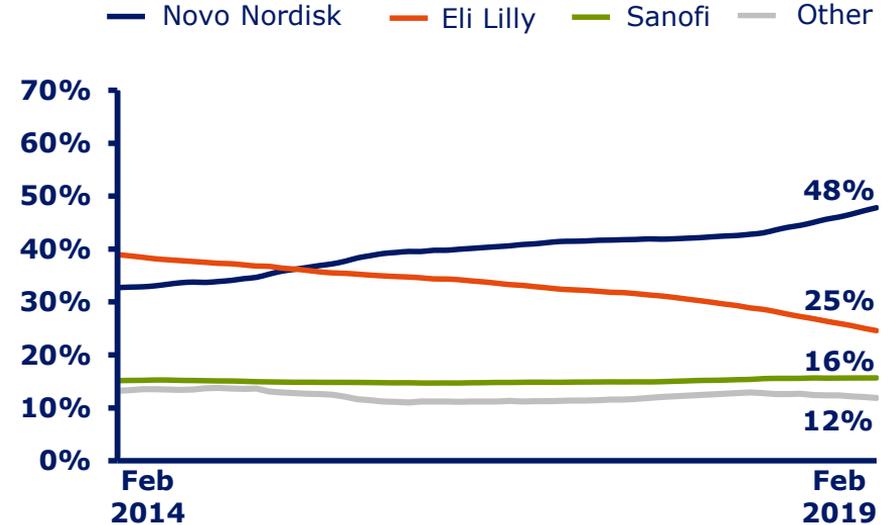
# Novo Nordisk strengthens insulin volume market share in Region Latin America



## Region Latin America insulin market by segment



## Region Latin America modern and new-generation insulin volume shares



<sup>1</sup> CAGR for 5-year period

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

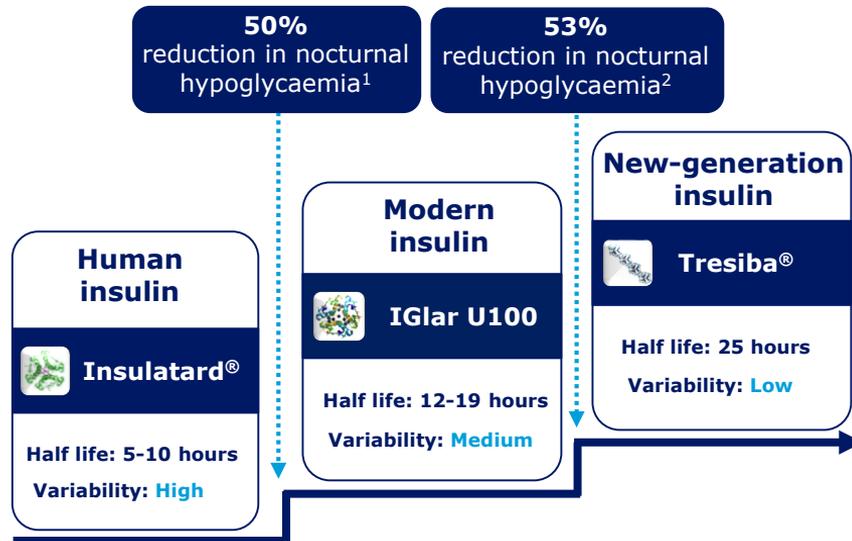
Source: IQVIA monthly MAT, Feb 2019 volume and value figures

Note: Only top-3 shown. Numbers do not add up to 100% due to rounding

Source: IQVIA monthly MAT data Feb, 2019 volume figures

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

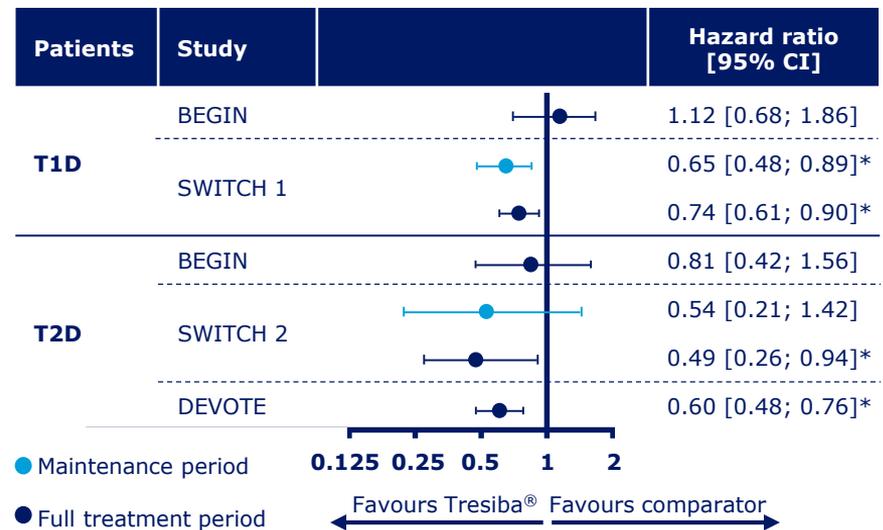
Tresiba® is a leap on the innovation ladder by further reducing nocturnal hypoglycaemia



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

<sup>2</sup> DEVOTE, American Diabetes Association 77<sup>th</sup> Scientific Sessions, 3-CT-SY22, Jun 12 2017  
IGlar 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 77<sup>th</sup> Scientific Sessions, 3-CT-SY22, Jun 12 2017

# GLP-1



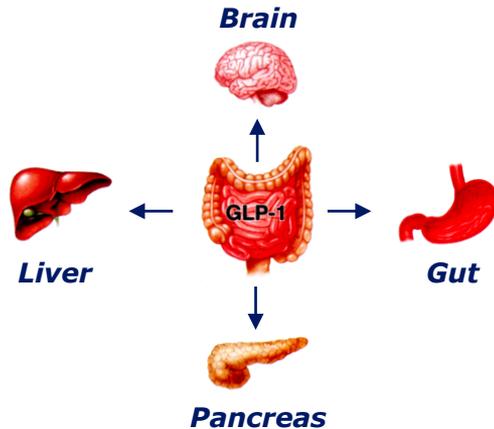
REN YANXIA  
Ren has type 2 diabetes  
China

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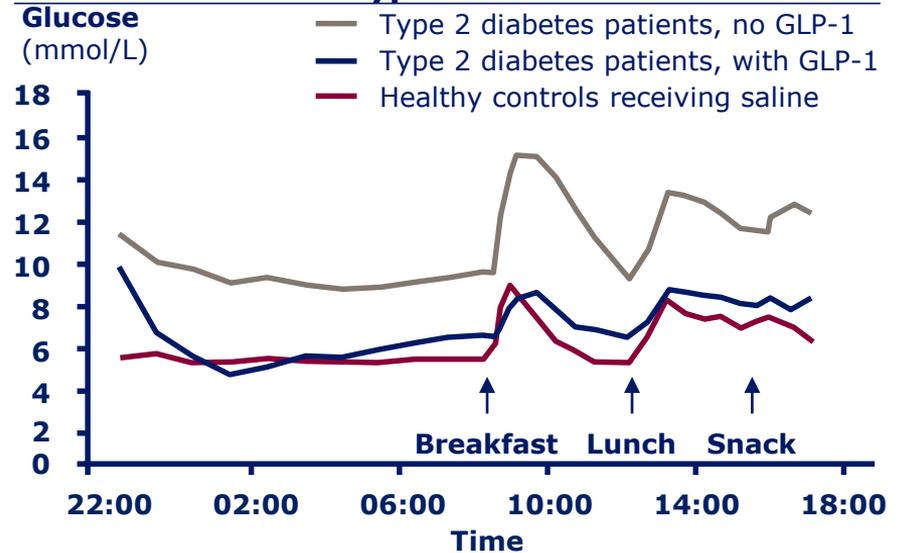
# GLP-1 effect dependent on level of blood glucose

## 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

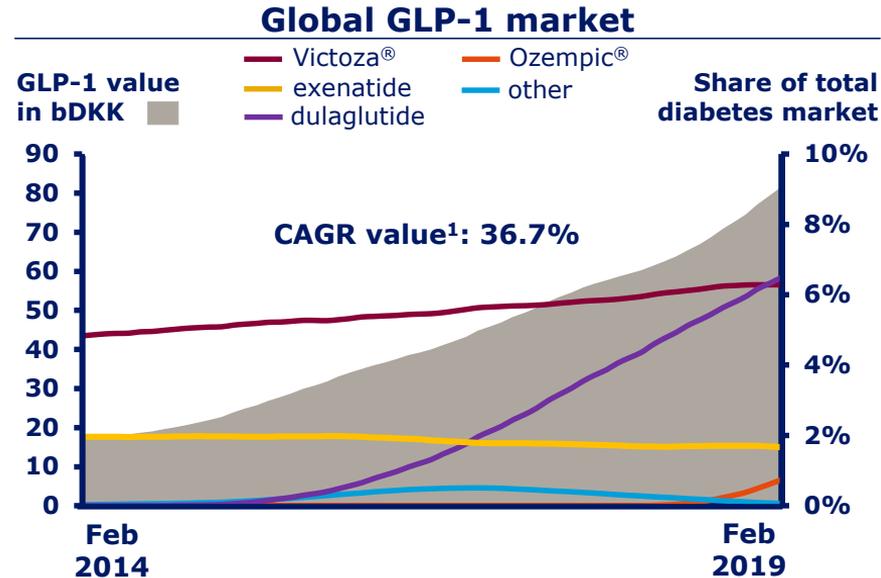


## GLP-1 lowers blood glucose in patients with type 2 diabetes



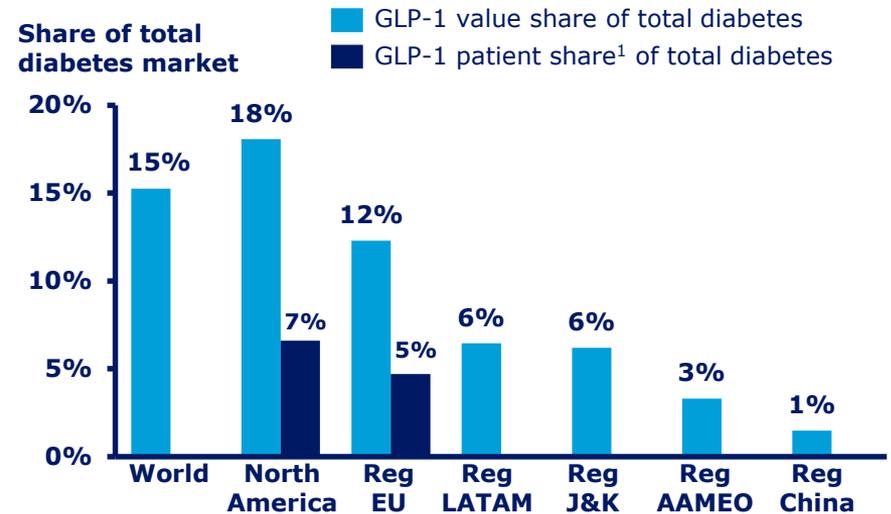
Source: Rachman et al. Diabetologia 1997;40:205-11

# The GLP-1 segment accounts for 15% of the global diabetes market value



<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 value figures

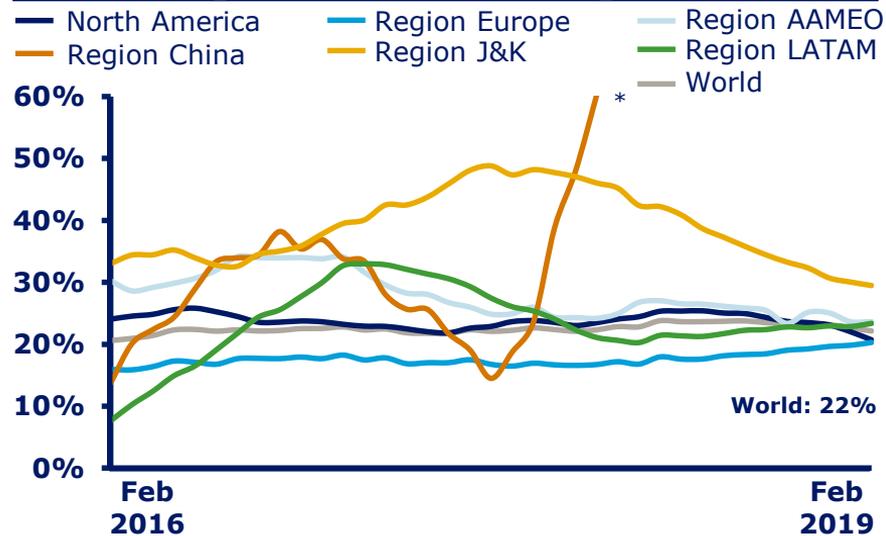
## GLP-1 value and patient share of the total diabetes market



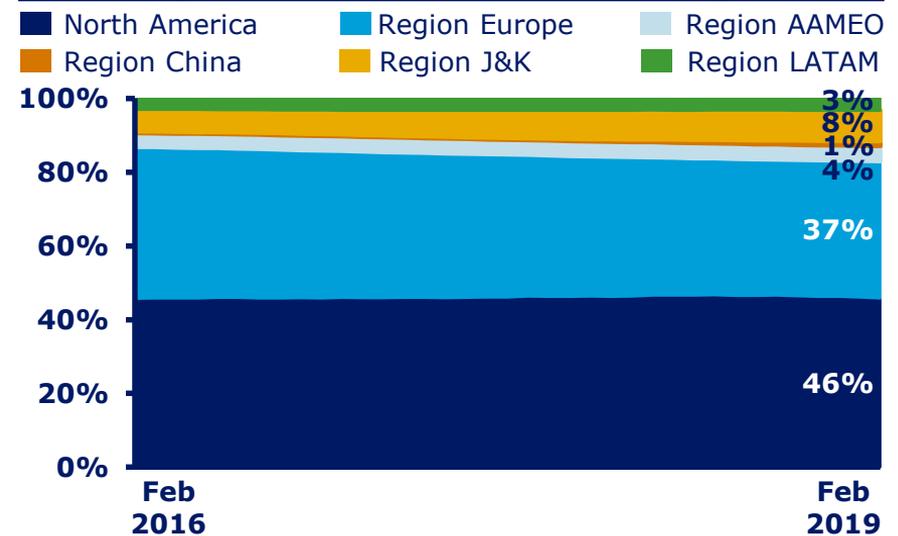
Reg: Region; AAMEO: Africa, Asia, Middle East & Oceania; J&K: Japan & Korea; LATAM: Latin America  
<sup>1</sup> Patient share is indicative and based on data for the USA, the UK, Germany and France only.  
Source: Value data; IQVIA monthly MAT, Feb 2019. Patient data; IQVIA Disease Analyser (DE, FR, UK), Quintiles IQVIA LRx (USA), Feb 2019

# Strong GLP-1 volume growth in all regions

## Regional GLP-1 volume growth



## Regional GLP-1 volume market split

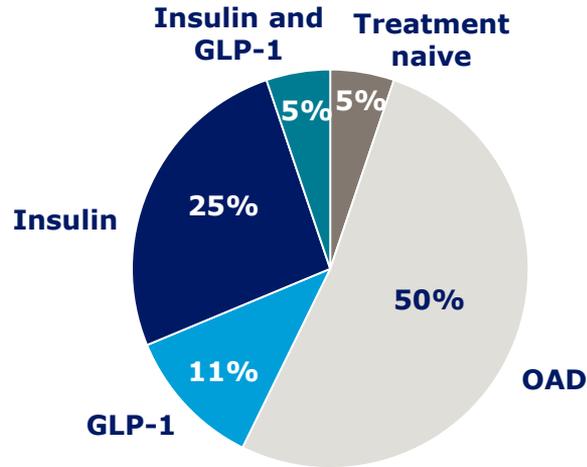


J&K: Japan & Korea; AAMEO: Africa, Asia, the Middle East and Oceania; LATAM: Latin America  
 Note: Data is sensitive to changes in IQVIA data collection and reporting methodology; MAT volume is based on treatment days daily assumption per GLP-1m product  
 \* Region China has increased by 119% MAT Feb, 2019  
 Source: IQVIA monthly MAT, Feb 2019 volume figures

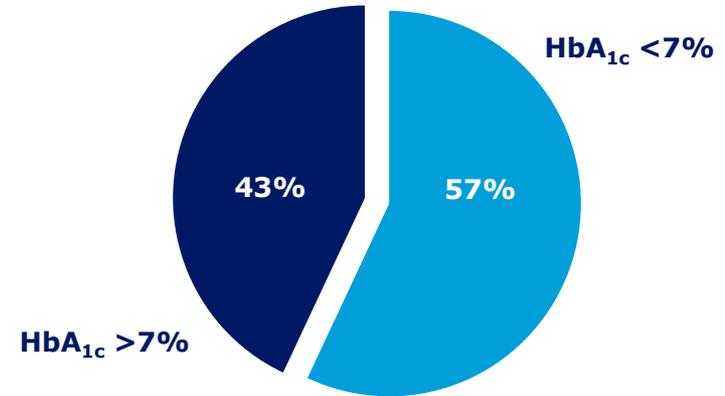
Note: Data is sensitive to changes in IQVIA data collection and reporting methodology. Numbers does not add up to 100% due to rounding  
 Source: IQVIA monthly MAT, Feb 2019 volume figures

# Main GLP-1 source of business comes from OAD patients as many OAD patients are not in good control

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



**Share of patients on OADs achieving  
HbA<sub>1c</sub> below 7% in major European countries**

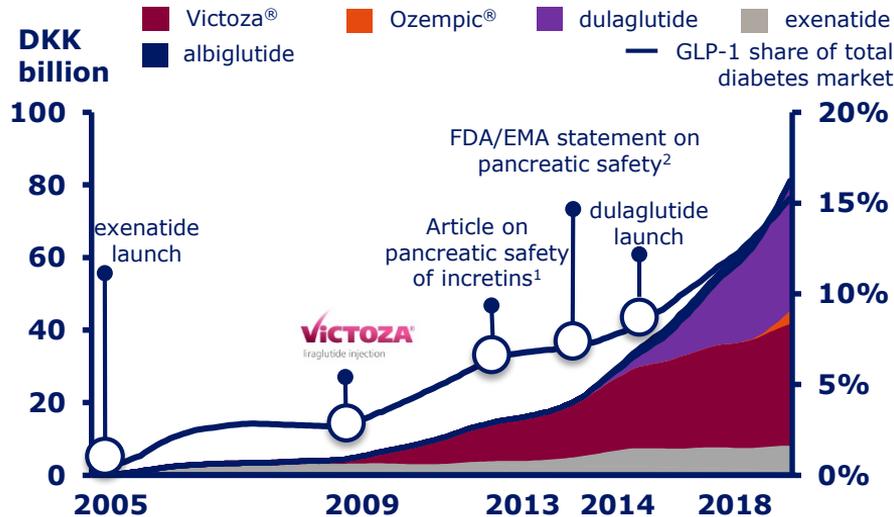


Note: Data based on data from France, Germany, UK and USA only  
 OAD: Oral anti-diabetic (includes but is not limited to DPP-IV, SGLT-2, metformin and sulfonylurea)  
 Source: IQVIA Disease Analyser (France, Germany and UK) and IQVIA LRx (USA), Jun 2018

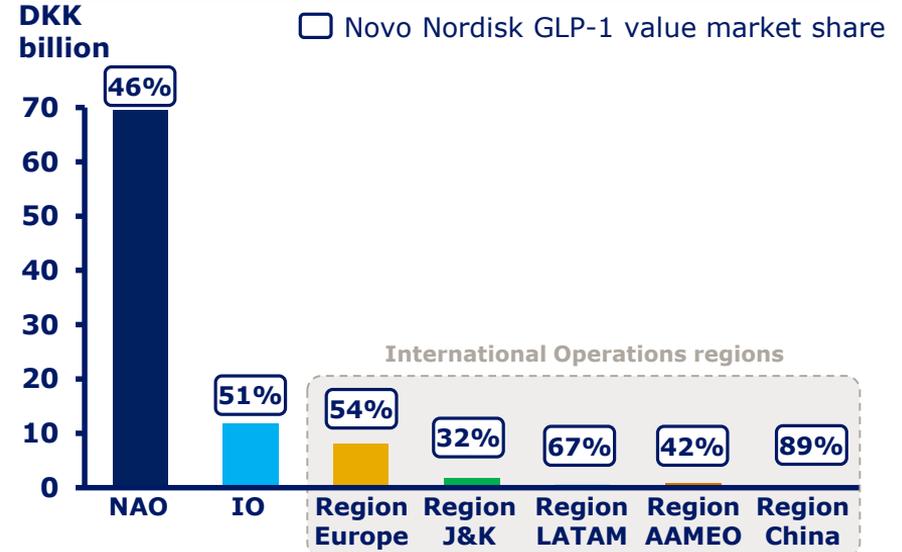
Note: Data based on data from France, Germany and the UK only  
 Source: IQVIA Disease Analyser (France, Germany and the UK), Sep 2017

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

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



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



<sup>1</sup> 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

<sup>2</sup> 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, Feb 2019 (Note: IQVIA data does not adequately capture rebates resulting in an overstatement of market value)

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

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

Source: Reported sales until Feb 2019, IQVIA MIDAS, Feb 2019



# Ambition to maintain global GLP-1 market leadership with diverse and long-term GLP-1 portfolio

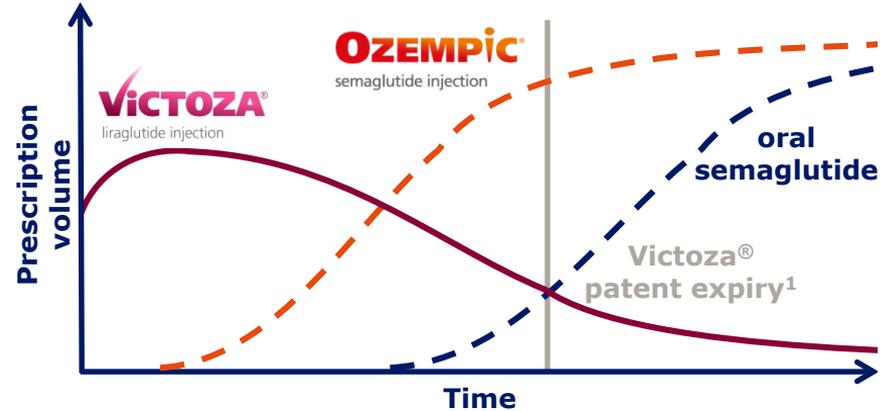
Promotional focus shifted from Victoza® to Ozempic® as market access increases

*Illustrative*



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

*Illustrative*

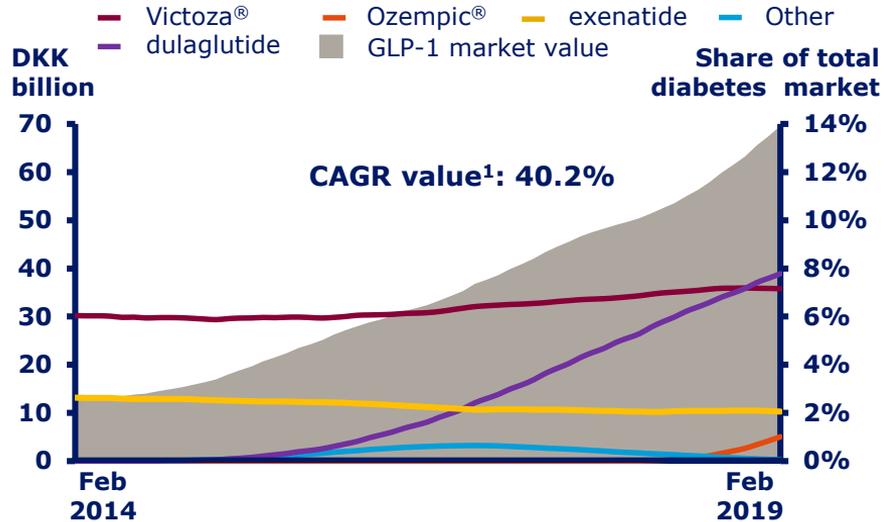


<sup>1</sup> Victoza® patent expiry expected in 2022/2023 in most markets

# GLP-1 segment accounts for 18% of total diabetes market value in North America



## North America GLP-1 market



## Key points on Victoza® and Ozempic® in the USA

- Victoza® and Ozempic® value market share within the GLP-1 segment is 45%<sup>2</sup>
- Around 93% of new patients who start on Victoza® transition from outside of the GLP-1 segment. Around 72% of new patients who start on Ozempic® transition from outside of GLP-1 segment<sup>3</sup>
- Unrestricted access for Ozempic® for commercial and Medicare Part D combined around 85%

<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 value figures

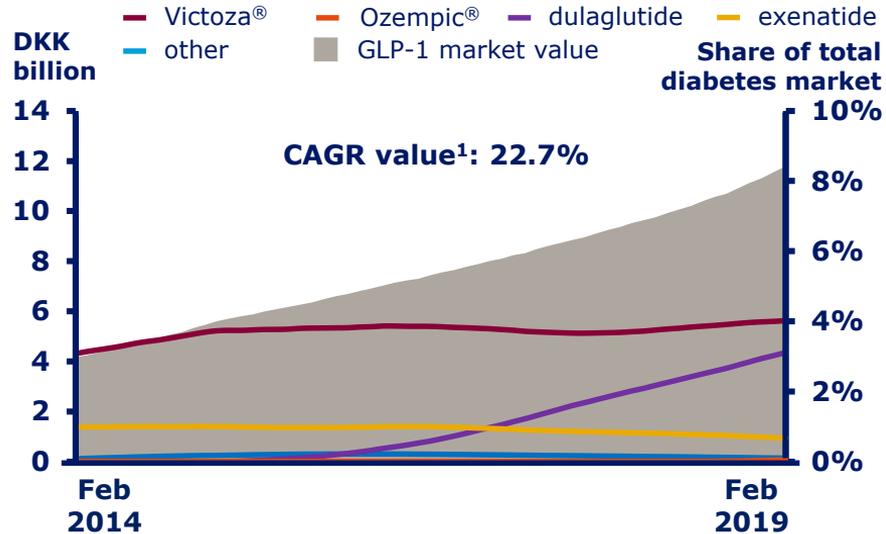
<sup>2</sup> Source: IQVIA NSP monthly, MAT, Feb 2019

<sup>3</sup> IQVIA SOB, week 4 Apr 2019 (based on 4 week average)

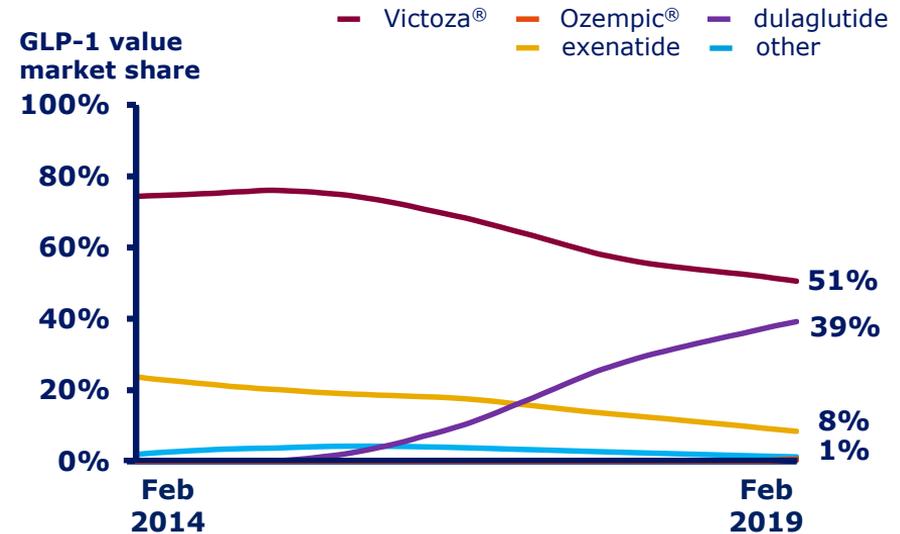
# GLP-1 segment accounts for around 8% of total diabetes market value in International Operations



## IO GLP-1 market



## GLP-1 value market share in IO



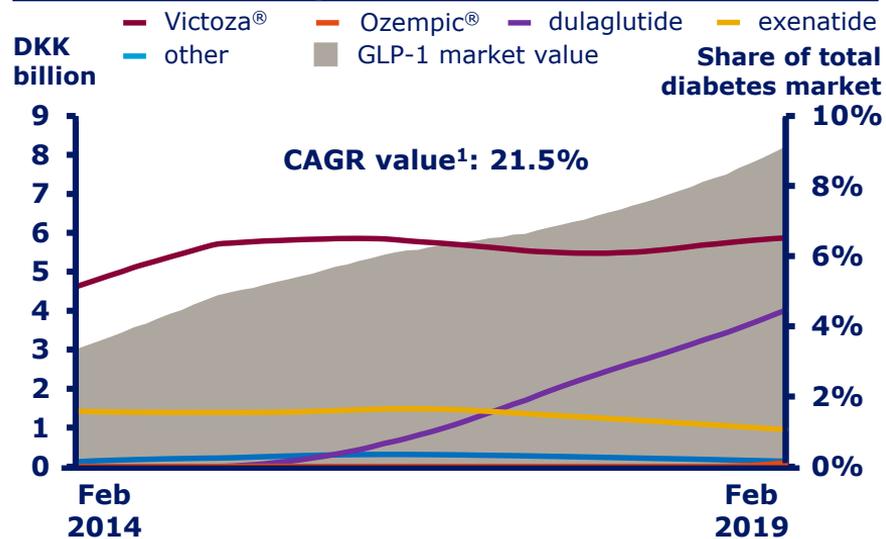
<sup>1</sup> CAGR for 5-year period  
 IO : International Operations  
 Source: IQVIA monthly MAT, Feb 2019 value figures

IO : International Operations  
 Source: IQVIA monthly MAT Feb, 2019 value figures

# GLP-1 segment accounts for around 12% of total diabetes market value in Region Europe

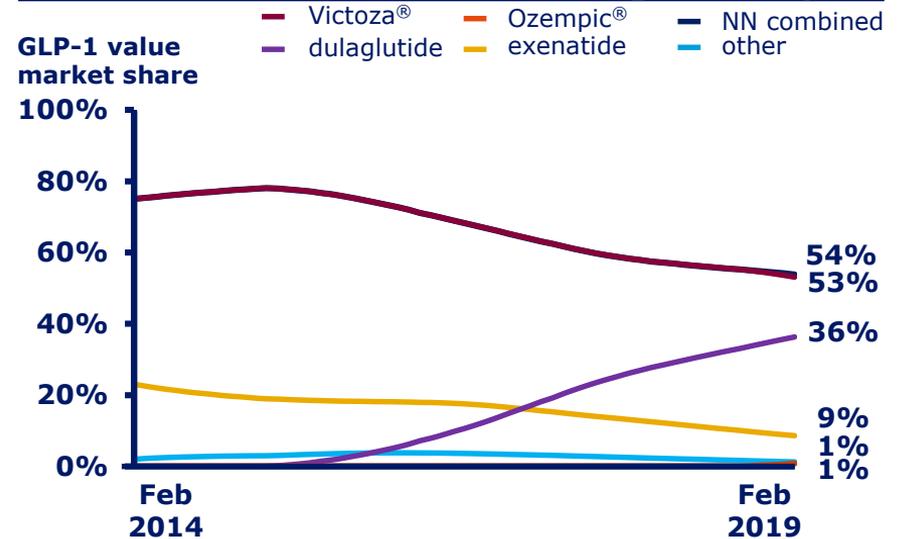


## European GLP-1 market



<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 value figures

## GLP-1 value market share in Region Europe

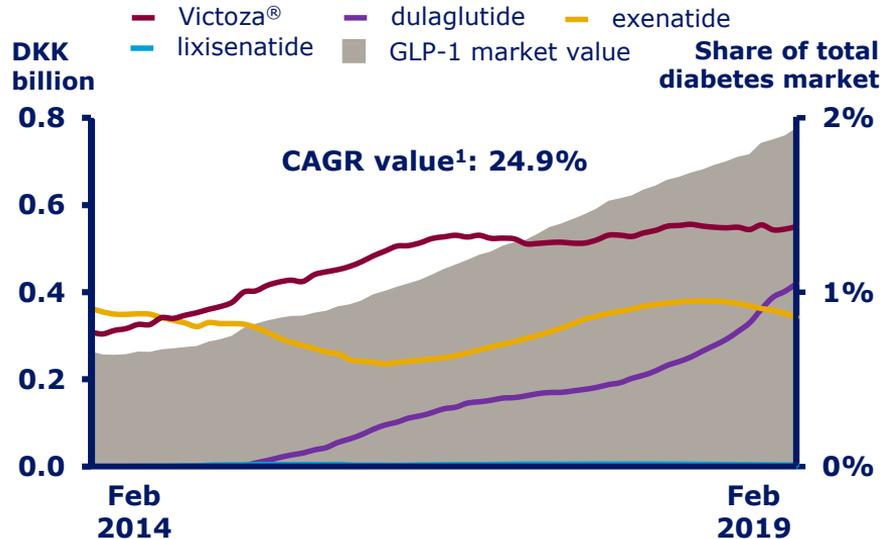


Source: IQVIA monthly MAT Feb, 2019 value figures

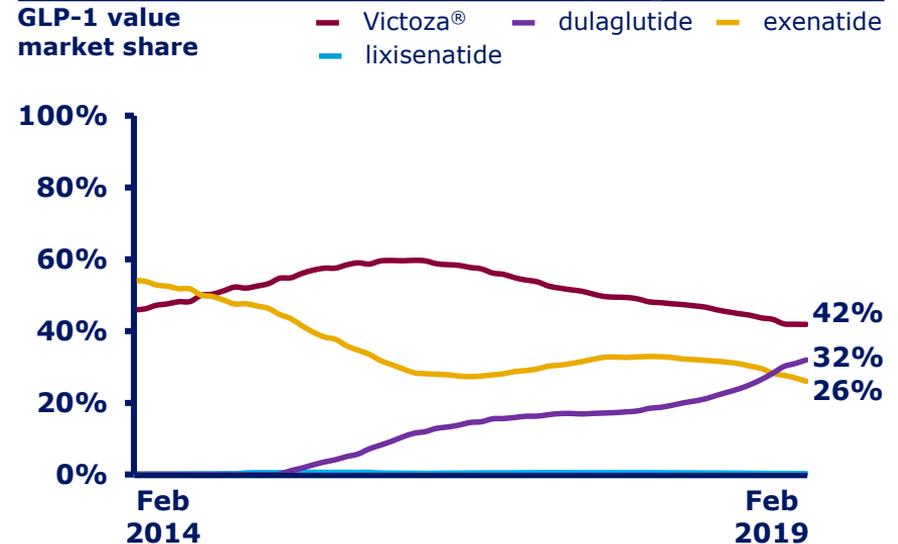
# GLP-1 segment accounts for 3% of total diabetes market value in Region AAMEO



## Region AAMEO GLP-1 market



## Victoza® value market share in Region AAMEO



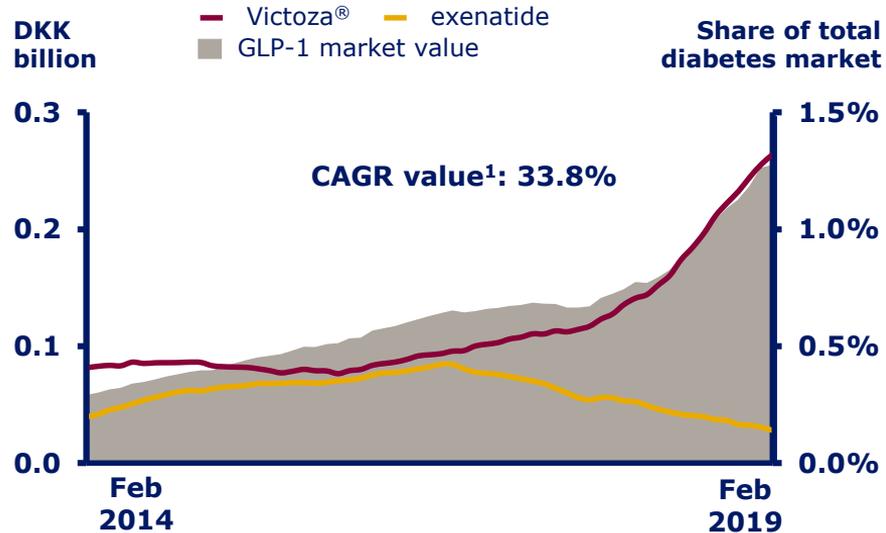
<sup>1</sup> CAGR for 5-year period  
 AAMEO: Africa, Asia, the Middle East and Oceania  
 Source: IQVIA monthly MAT, Feb 2019 value figures

Source: IQVIA monthly MAT, Feb 2019 value figures

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

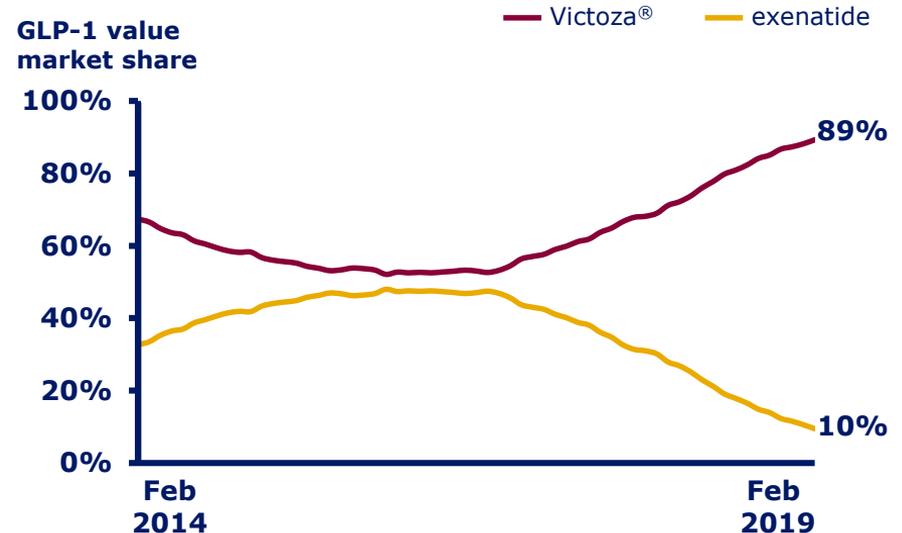


## Chinese GLP-1 market



<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 value figures

## Victoza® value market share in Region China

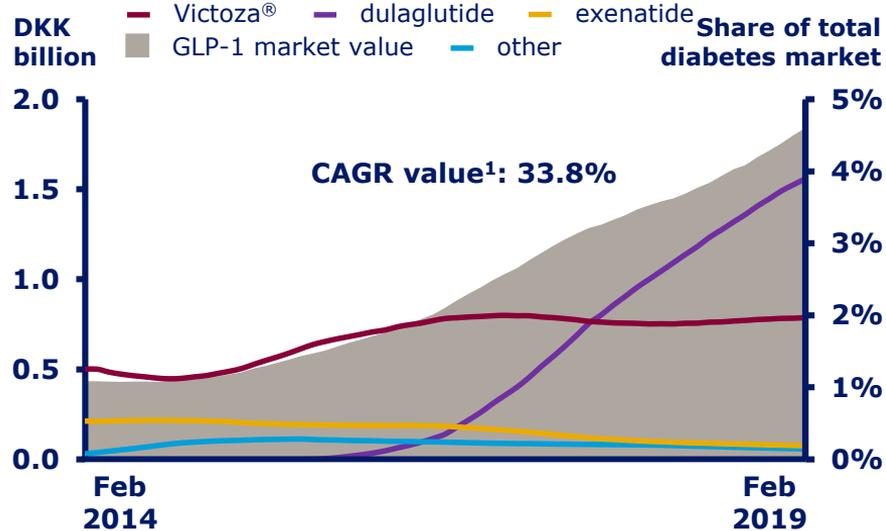


Source: IQVIA monthly MAT, Feb 2019 value figures. Market share does not add up to 100% due to rounding

# GLP-1 segment accounts for around 6% of the total diabetes market in Region Japan & Korea

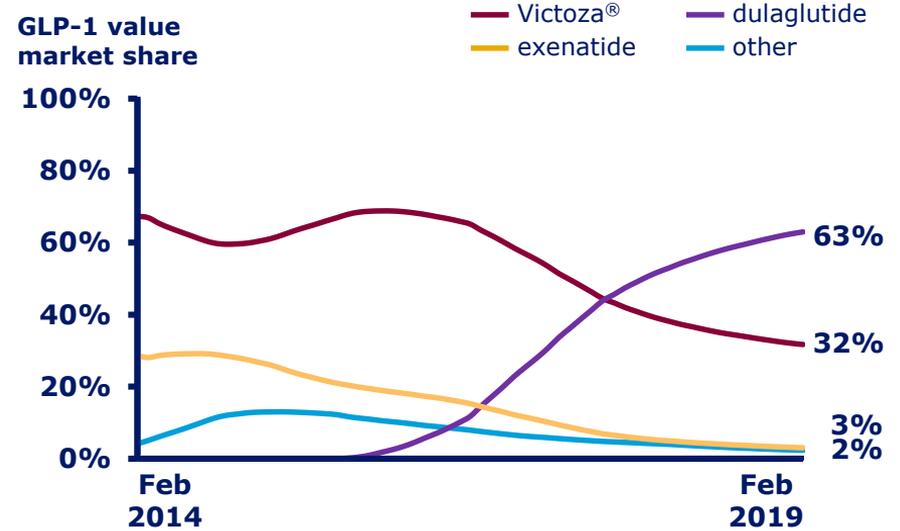


## Region Japan & Korea GLP-1 market



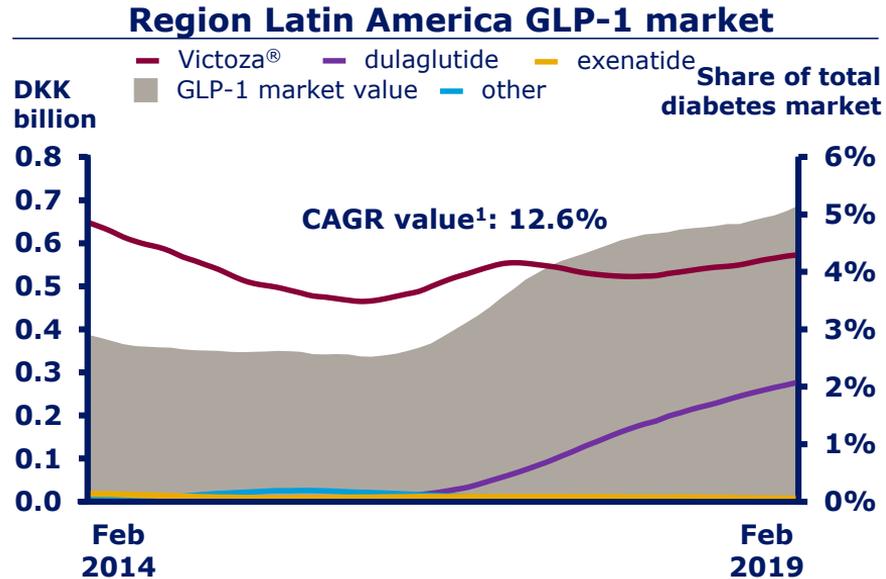
<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 value figures

## Victoza® value market share in Region Japan & Korea



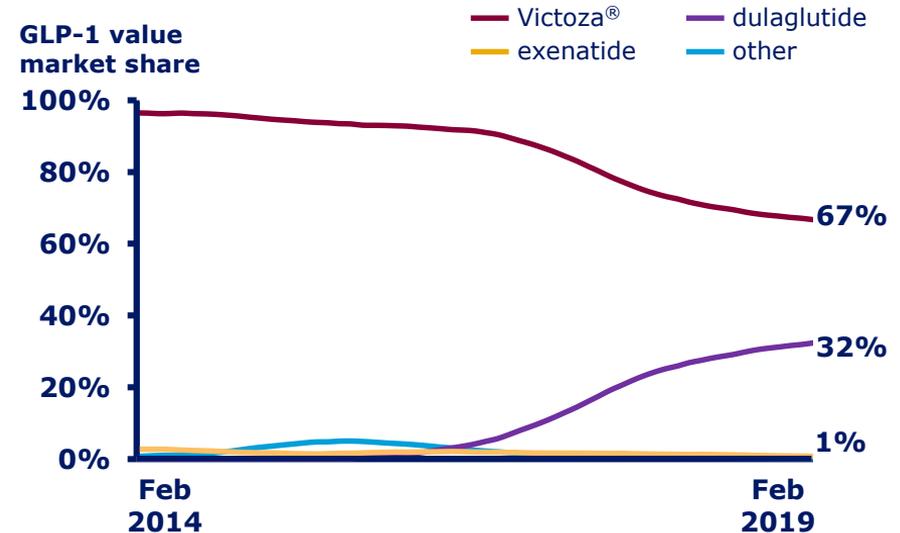
Source: IQVIA monthly MAT, Feb 2019 value figures

# GLP-1 segment accounts for around 6% of the total diabetes market in Region Latin America



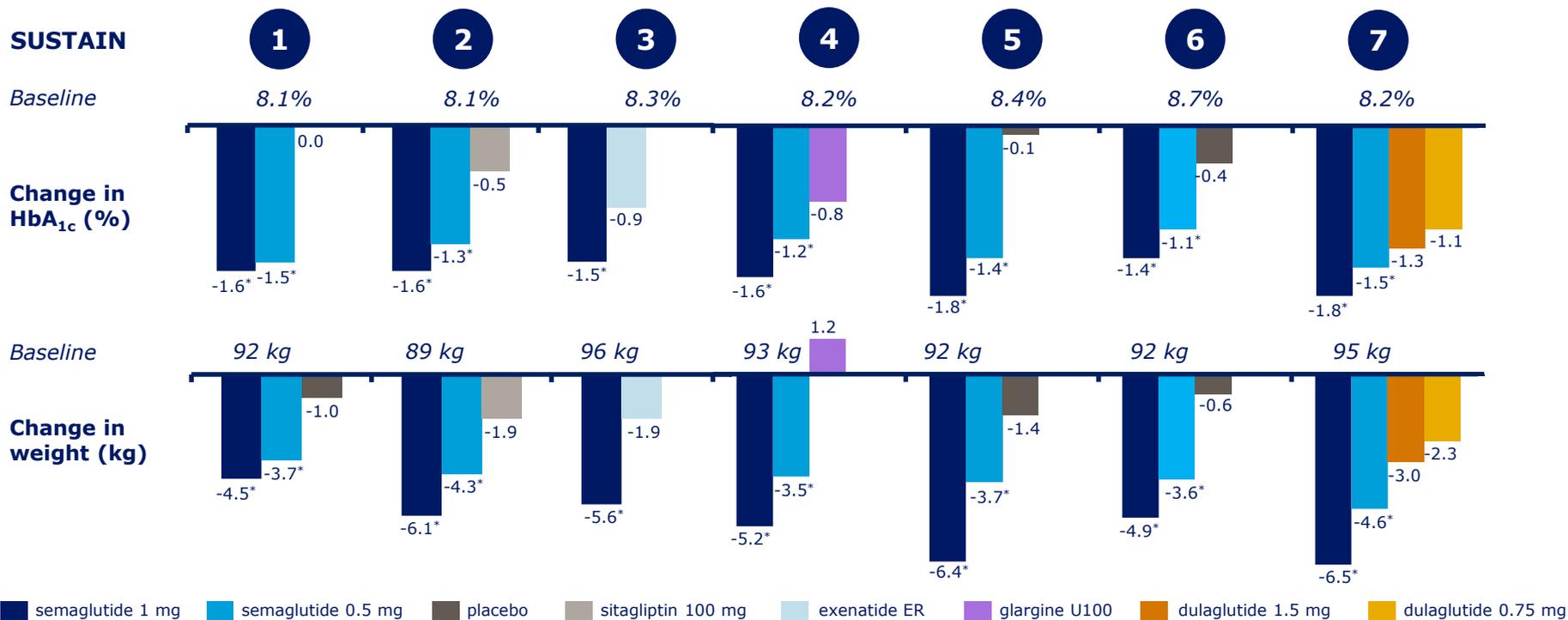
<sup>1</sup> CAGR for 5-year period  
Source: IQVIA monthly MAT, Feb 2019 value figures

### Victoza® value market share in Region Latin America



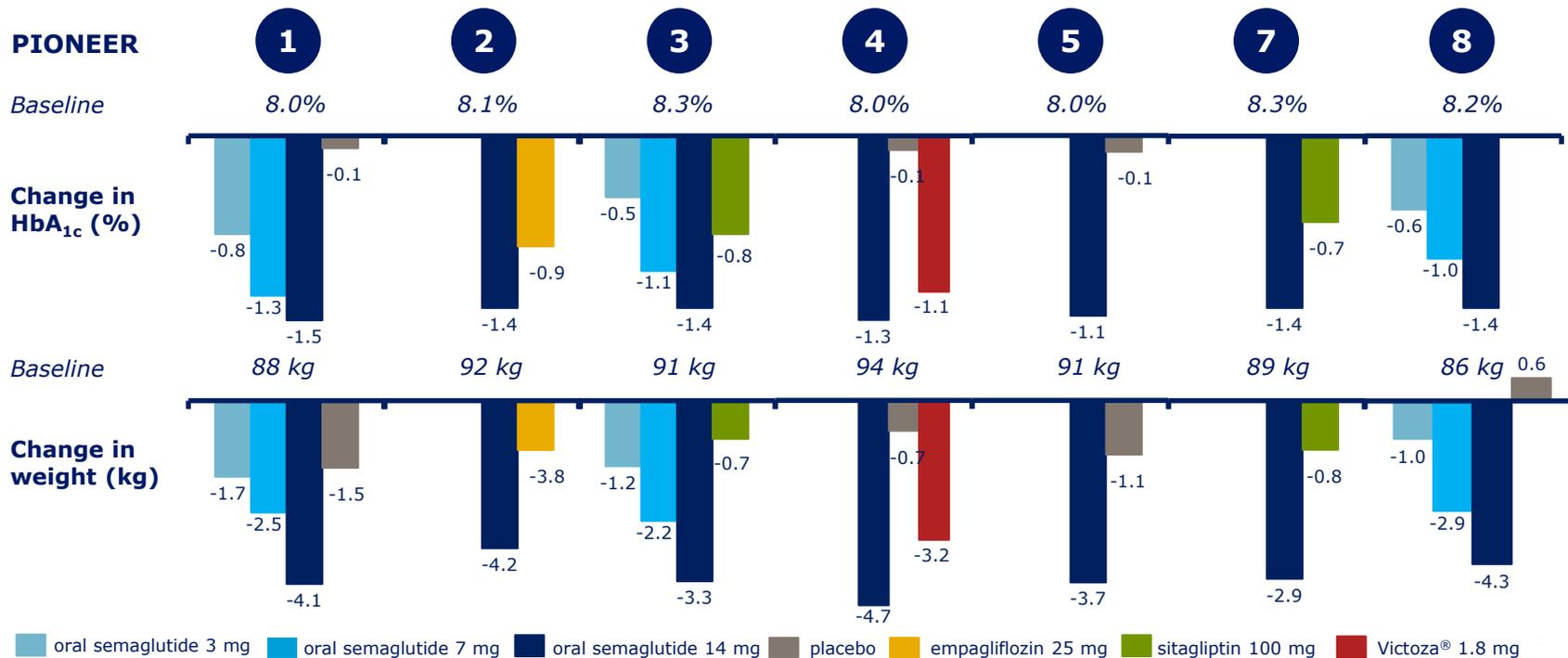
Source: IQVIA monthly MAT, Feb 2019 value figures

# SUSTAIN trials with semaglutide



\* Statistically significant; SUSTAIN 1: QW sema vs placebo in drug-naïve subjects with T2D; SUSTAIN 2: QW sema vs sitagliptin 100 mg QD in subjects with T2D added to 1-2 OADs; SUSTAIN 3: QW sema vs QW exenatide ER 2.0 mg in subjects with T2D added to 1-2 OADs; SUSTAIN 4: QW sema vs QD insulin gargine in subjects with T2D added to 1-2 OADs; SUSTAIN 5: QW sema vs placebo in subjects with T2D added to insulin; SUSTAIN 6: QW sema vs placebo, added to standard-of-care; SUSTAIN 7: QW sema vs QW dulaglutide 75 mg and 150 mg in subjects with T2D added to 1-2 OADs  
 ER: Extended-release; QW: once weekly; QD: once daily; sema: semaglutide; T2D: type 2 diabetes, OAD: oral anti-diabetics

# PIONEER programme completed for oral semaglutide and global trials showed consistent efficacy profile



Note: PIONEER 9 and PIONEER 10 were Japanese studies and PIONEER 6 was a CV safety study.

\* Statistically significant; PIONEER 1: QD oral sema vs placebo in subjects with T2D treated with diet and exercise only; PIONEER 2: QD oral sema vs empagliflozin 25 mg in subjects with T2D; PIONEER 3: QD oral sema vs sitagliptin 100 mg in subjects with T2D; PIONEER 4: QD oral sema vs Victoza® 1.8 mg and placebo in subjects with T2D; PIONEER 5: QD oral sema vs placebo in subjects with T2D and moderate renal impairment; PIONEER 7: QD oral sema using a flexible dose adjustment based on clinical evaluation vs sitagliptin 100 mg in subjects with T2D; PIONEER 8: Effects of QD oral sema vs placebo in subjects with long duration of T2D treated with insulin

ER: Extended-release; QW: once weekly; QD: once daily; oral sema: oral semaglutide; T2D: type 2 diabetes, OAD: oral anti-diabetics; CV: Cardiovascular

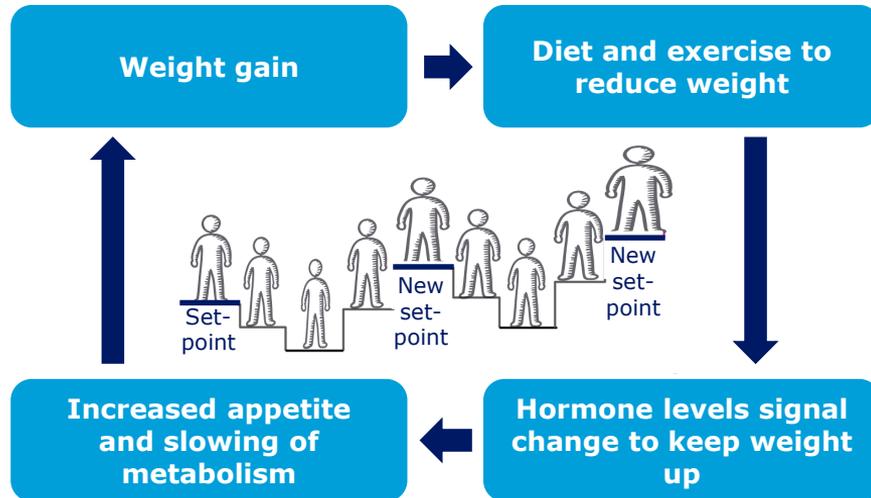
# Obesity



1. Obesity as a chronic disease	85
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3. Saxenda®	88
4. Obesity pipeline	90
5. STEP and SELECT	91

# 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

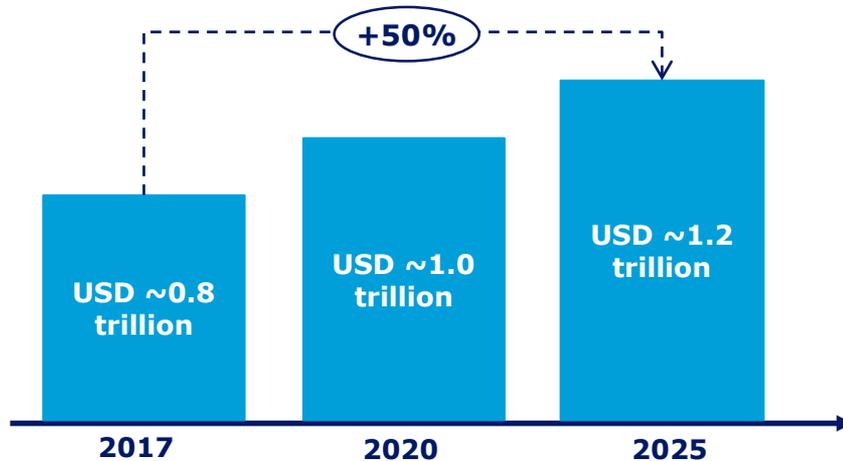
<sup>1</sup> Attempt to manage weight through lifestyle modification or surgery

<sup>2</sup> 2% of people with obesity are estimated to be treated with anti-obesity medication

Source: IQVIA MIDAS 2017

# Healthcare cost associated with obesity expected to increase

## Global healthcare cost related to obesity expected to increase by 50% by 2025



Source: World Obesity Federation, 2017

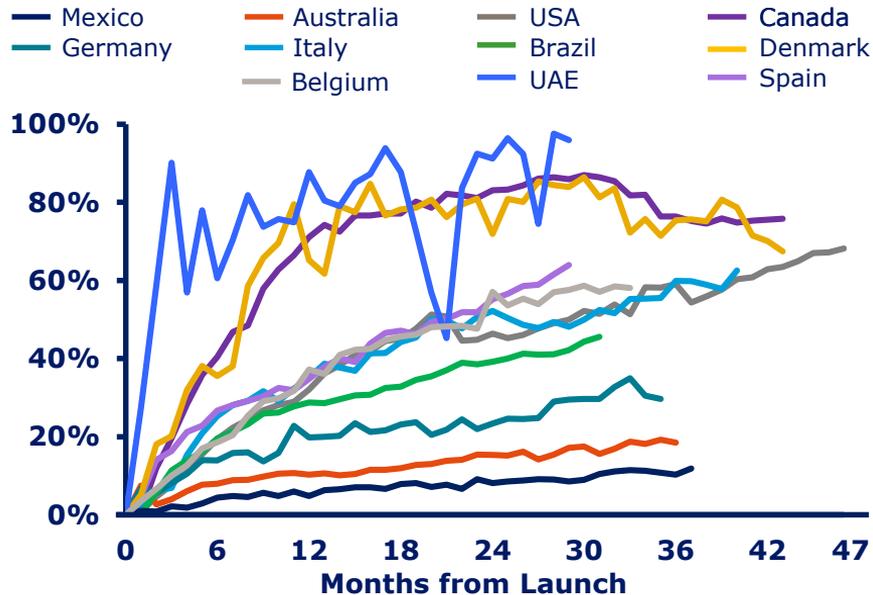
## Increase in healthcare costs primarily driven by obesity-related comorbidities

- Today, 650 million people have obesity globally
- By 2025, ~1 billion people are expected to have obesity
- If left untreated, by 2025, the cost of treating complications of obesity is expected to reach USD ~550 billion in the USA 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, Oct 2017; World Obesity Federation, 2017

# Saxenda® now launched in 41 countries

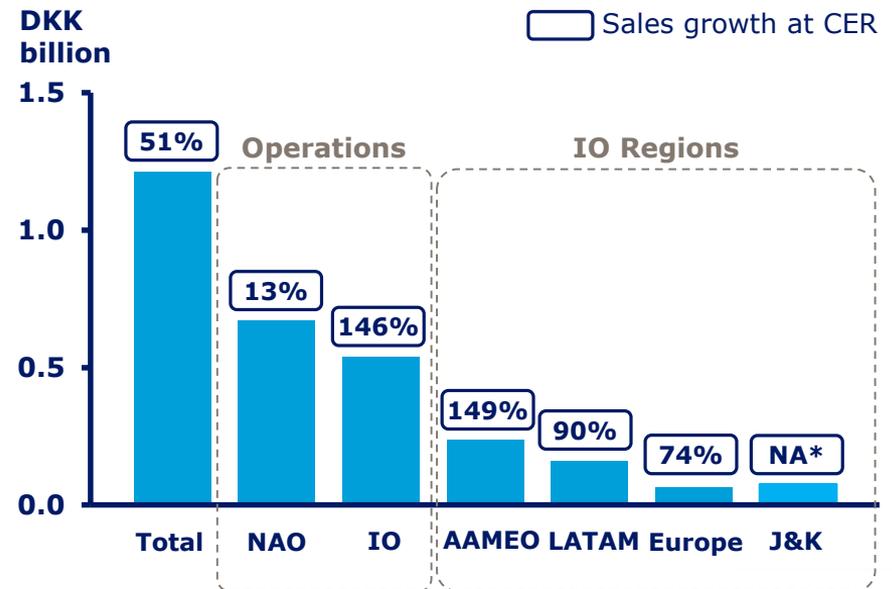
## Saxenda® value share of anti-obesity medications in selected countries



Source: IQVIA MAT, Feb 2019

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

## Reported Saxenda® sales for first quarter of 2019



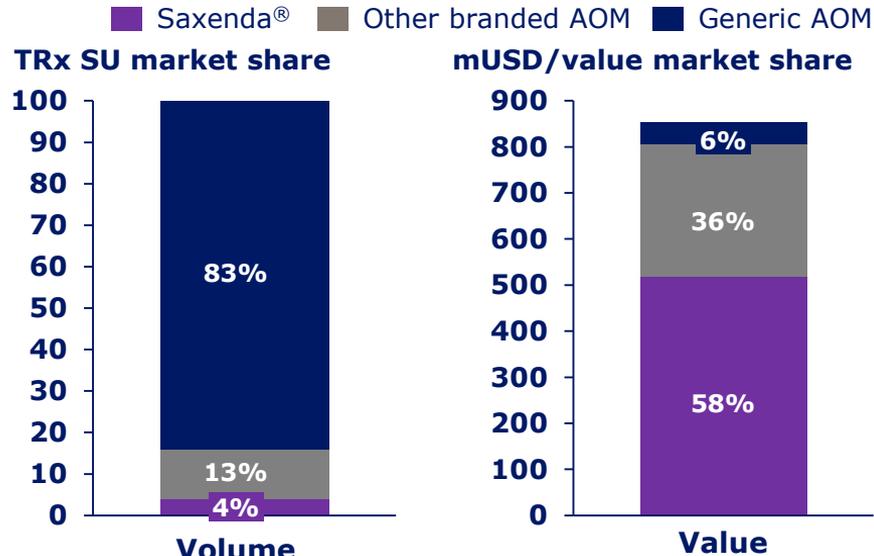
NAO: North America Operations; IO: International Operations; AAMEO: Africa, Asia, Middle East & Oceania; LATAM: Latin America; J&K: Japan & Korea

\*Saxenda® was launched in South Korea within Region Japan & Korea during 2018

CER: Constant exchange rates

# 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 853 million



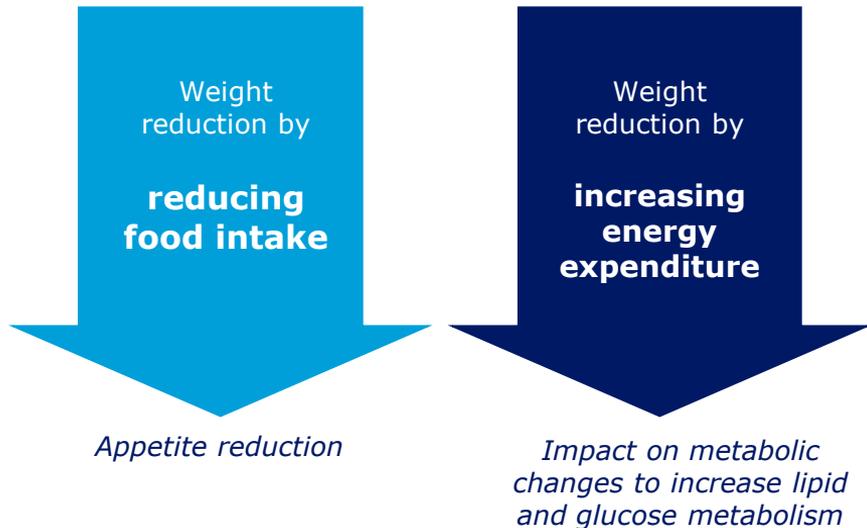
Novo Nordisk is investing in overcoming the barriers preventing effective obesity care

	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 branded AOM prescriptions per month	Continued Obesity Care Education, through the Obesity Educators physician engagement
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"

AOM: Anti-obesity medication; TRx SU Volume  
Source: IQVIA Xponent MAT, Feb 2019; NSP MAT, Feb 2019

# 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:

Saxenda®
semaglutide – QW GLP-1
AM833 – amylin analogue
PYY1562 – PYY analogue
NN9277 – GG-co-agonist
NN9423 – Tri-agonist 1706
PYY1875 – PYY analogue

### 2019 expectations

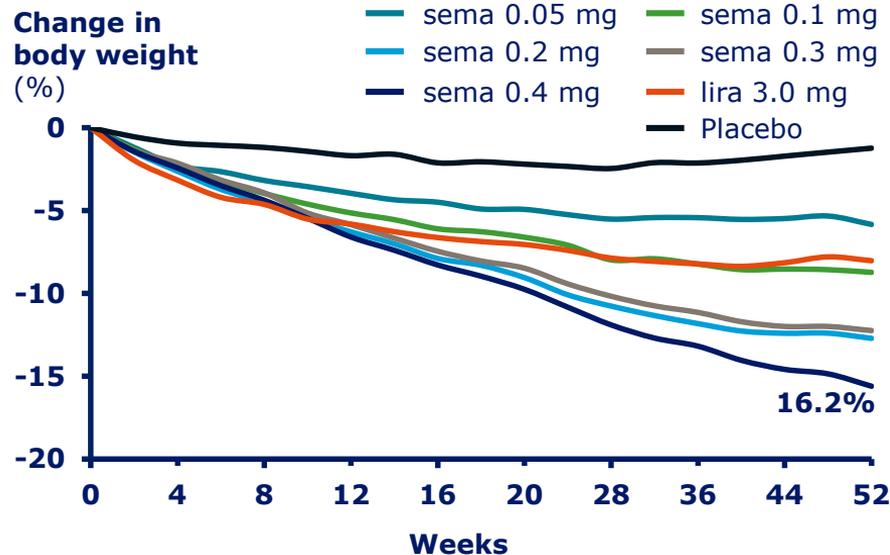
Launched
Phase 3 ongoing
Phase 2 initiated
Phase 1 results
Phase 1 ongoing
Phase 1 results
Phase 1 ongoing

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

QW: Once-weekly

# Semaglutide demonstrated unprecedented weight loss in a phase 2 obesity trial

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



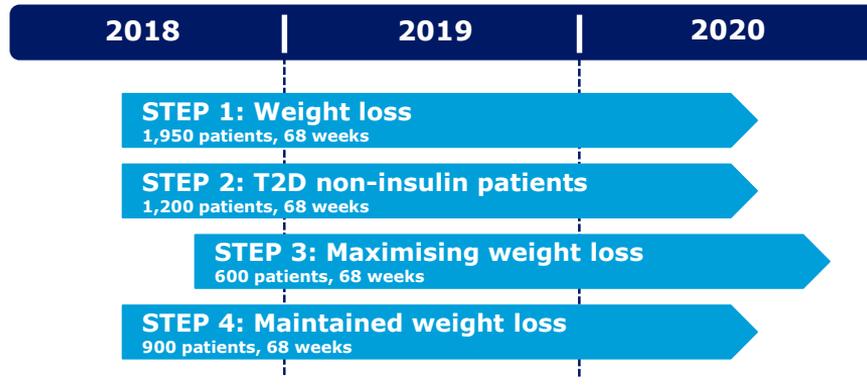
Note: All treatment arms are adjunct to diet and exercise  
 QD: Once-daily; sema: Semaglutide; lira: Liraglutide

## 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 and cardiovascular outcomes study SELECT were initiated in 2018

# Phase 3a programme STEP and CV outcomes study SELECT were initiated in 2018

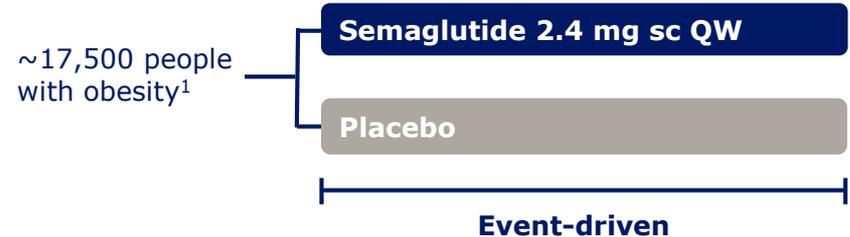
**Semaglutide in obesity phase 3a programme, STEP, expected to include ~4,500 patients<sup>1</sup>**



**Expected phase 3a programme completion: 2020**

<sup>1</sup> Inclusion criteria: Male or female, age  $\geq 18$  years, BMI:  $\geq 30$  kg/m<sup>2</sup> or  $\geq 27$  kg/m<sup>2</sup> and  $\geq 1$  comorbidity  
 Note: All treatment arms are adjunct to diet and exercise  
 CV: Cardiovascular; T2D: Type 2 diabetes; BMI: Body mass index

**Cardiovascular outcomes study, SELECT, initiated for semaglutide in obesity**



**Completion: Pre-defined number of events**

<sup>1</sup> Inclusion criteria: Male or female > 45 years, BMI > 27 kg/m<sup>2</sup>, myocardial infarction or stroke > 60 days, HbA<sub>1c</sub> < 6.5%  
 QW: Once-weekly; sc: Subcutaneous; BMI: Body mass index

# Biopharm and other chronic areas



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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 bypassing and mimicking agents

Strengthen leadership in **GROWTH DISORDERS**



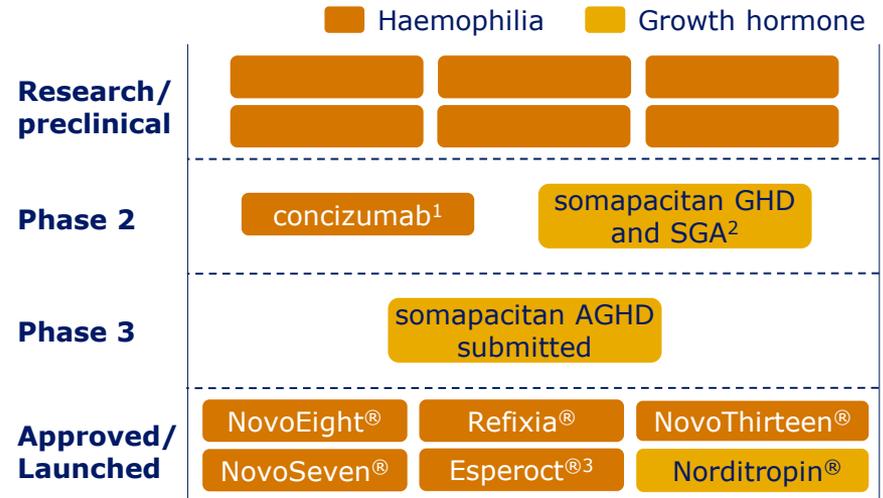
Bring long-acting growth hormone somapacitan to market and expand indications

Pursue **bolt-on opportunities**



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

## Novo Nordisk Biopharm portfolio



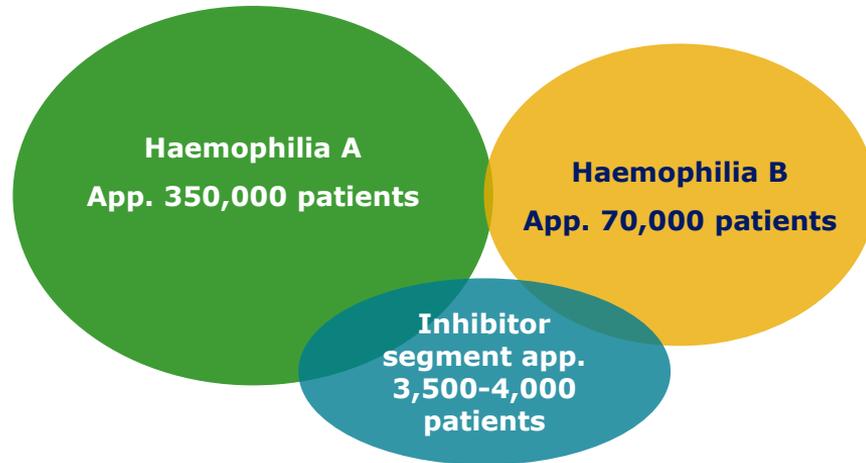
<sup>1</sup> Concizumab has completed phase 2 trials and is phase 3 ready; <sup>2</sup> Somapacitan GHD and SGA have completed phase 2 trials and are phase 3 ready; <sup>3</sup> N8-GP, Esperoct<sup>®</sup>, approved in the USA and the EU CHMP adopted a positive opinion, while N8-GP has been submitted in Japan

Note: NovoThirteen<sup>®</sup> and Refixia<sup>®</sup> are the global brand names where TRETEN<sup>®</sup> and Rebinyn<sup>®</sup> respectively are the brand names in North America

GHD: Growth hormone deficiency; AGHD: Adult growth hormone deficiency; SGA: small for gestational age

# Haemophilia is a rare disease with severe unmet medical needs

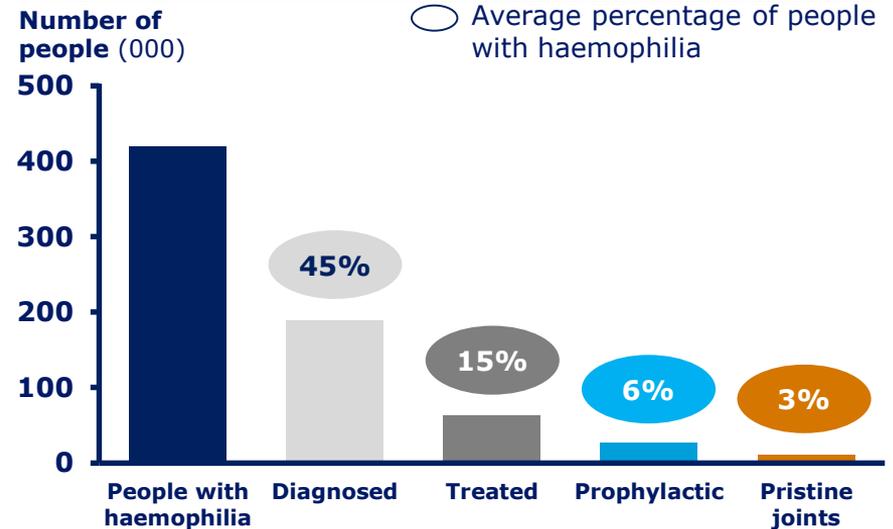
## Number of people with haemophilia A and B and haemophilia with inhibitors



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 USA

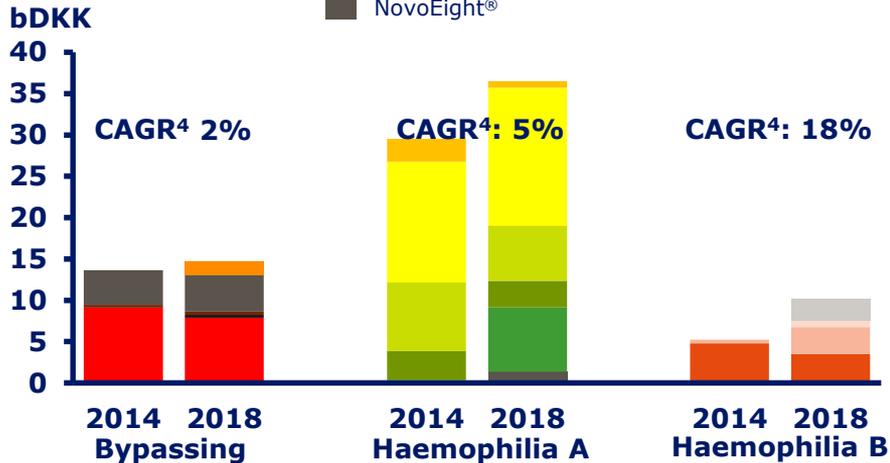
## Low diagnosis and treatment rates within haemophilia



Source: World Federation of Haemophilia – Annual Global Survey 2016

# Global haemophilia market is growing by high-single digit

## Sales of recombinant haemophilia products



## Strategic positioning of Novo Nordisk's haemophilia portfolio

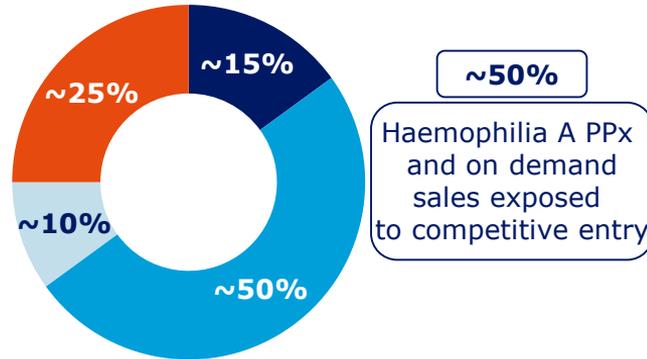
Novo Nordisk compound	Status	Strategic position
NovoSeven®	Launched	Maintain market leadership
NovoEight®	Launched	Establish presence in a competitive market place
Esperoct® (N8-GP)	Approved/Submitted <sup>1</sup>	Contribute to market conversion
Refixia®/Rebiny®	Launched <sup>2</sup>	Contribute to new treatment paradigm
NovoThirteen®	Launched	Launch first recombinant product

<sup>1</sup> Obizur® only indicated for acquired haemophilia; <sup>2</sup> Plasma-derived; <sup>3</sup> A minor part of the Hemlibra sales is used for treatment of haemophilia A patients in 2018; <sup>4</sup> CAGR for 5-year period  
 Source: Company reported sales and EvaluatePharma

<sup>1</sup> Approved in the USA; positive opinion adopted by the EU CHMP and submitted in Japan  
<sup>2</sup> Refixia® is the global brand name and Rebiny® is the brand name in North America  
 CHMP: Committee for Medicinal Products for Human Use

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

## Estimated NovoSeven® sales by indication<sup>1</sup>



**NovoSeven® sales of DKK 7.9 billion<sup>3</sup>**

## 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

<sup>1</sup> Based on internal Novo Nordisk estimate

<sup>2</sup> Other indications include areas like acquired haemophilia, Glanzmann's thrombasthenia and congenital FVII deficiency

<sup>3</sup> Reported sales for full year 2018

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

# Strong commercial execution and temperature stability key for NovoEight<sup>®</sup>, which has been launched in 46 countries

## NovoEight<sup>®</sup> global roll-out continues

■ Number of launch countries



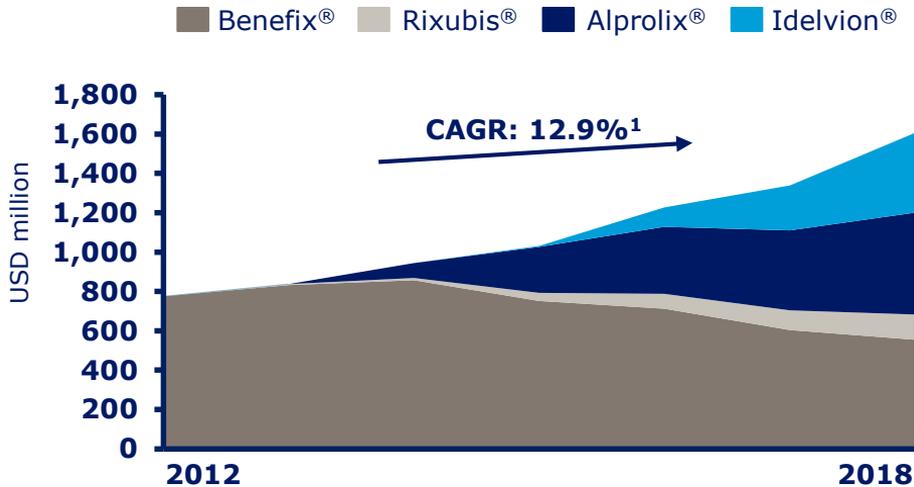
## NovoEight<sup>®</sup> has potential to increase volume share in selected segments and markets

### Competitive positioning for NovoEight<sup>®</sup>

- 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

# Strong growth in the long-acting haemophilia B market and Refixia<sup>®</sup> has now been launched in 14 countries

## Reported recombinant FIX sales



<sup>1</sup> CAGR for 6-year period

FIX: Coagulation factor IX

Source: Company reports (Benefix<sup>®</sup> and Alprolix) and EvaluatePharma (Rixubis<sup>®</sup> and Idelvion<sup>®</sup>) as sales are not reported separately

## Refixia<sup>®</sup> launched in 14 countries

- Refixia<sup>®</sup> offers a unique clinical profile that brings factor levels into the non-haemophilia range for adults and adolescents
- Dialogue ongoing with the FDA and the 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
- Launched in the first EU countries in 2017; in the USA in February 2018 and approved in Japan in July 2018

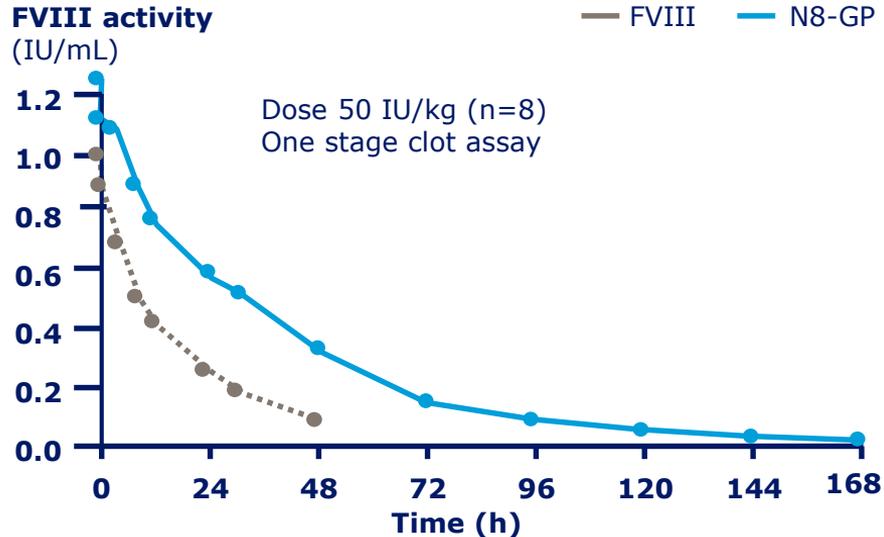
FDA: the US Food and Drug Administration; EMA: European Medicines Agency

rFIX: Recombinant coagulation factor IX

Note: The brand name for Refixia<sup>®</sup> in the USA is Rebinyn<sup>®</sup>

# 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  $\leq 2$  bleeds during 6 months in the main phase were randomised 2:1 to either once-weekly (75 IU/kg) or every fourth day (50 IU/kg) treatment for 180 days<sup>1</sup>
- Patients in both treatment arms had a median ABR of 0

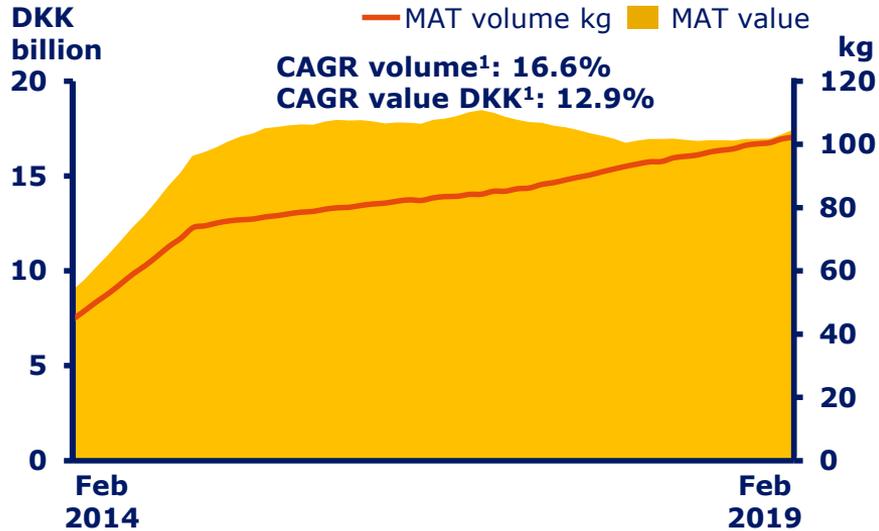
### Key events and next steps

- Esperoct®, N8-GP, approved in the USA in February 2019 and the EU CHMP adopted a positive opinion in April 2019
- Submitted in Japan

PK: Pharmacokinetic; ABR: Annualised bleeding rate; IU: International unit  
<sup>1</sup>Prophylaxis 75 IU/kg every 7 days (n=38) or prophylaxis 50 IU/kg every 4 days (n=17)  
 CHMP: Committee for Medicinal Products for Human Use

# Novo Nordisk maintains leadership within growth disorder

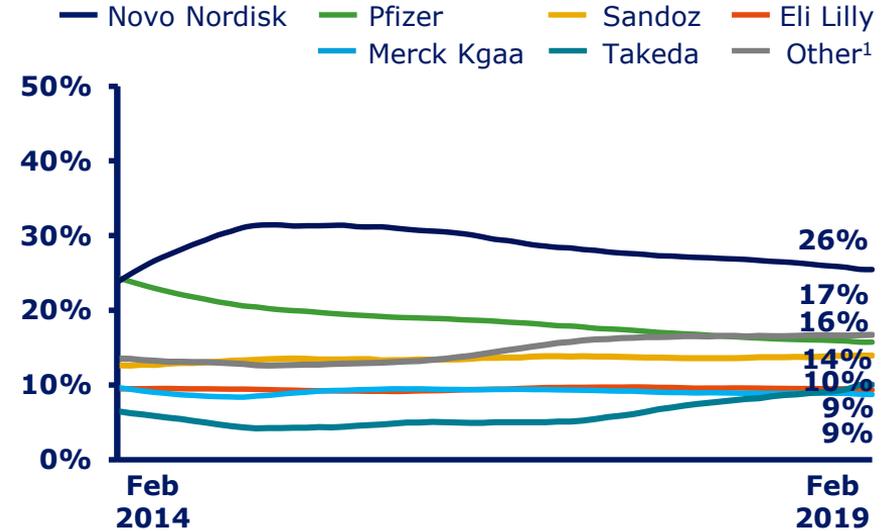
## Development in global growth disorder market



<sup>1</sup> CAGR for 5-year period

Source: IQVIA monthly MAT, Feb 2019 volume figures and value figures

## Growth disorder volume market share



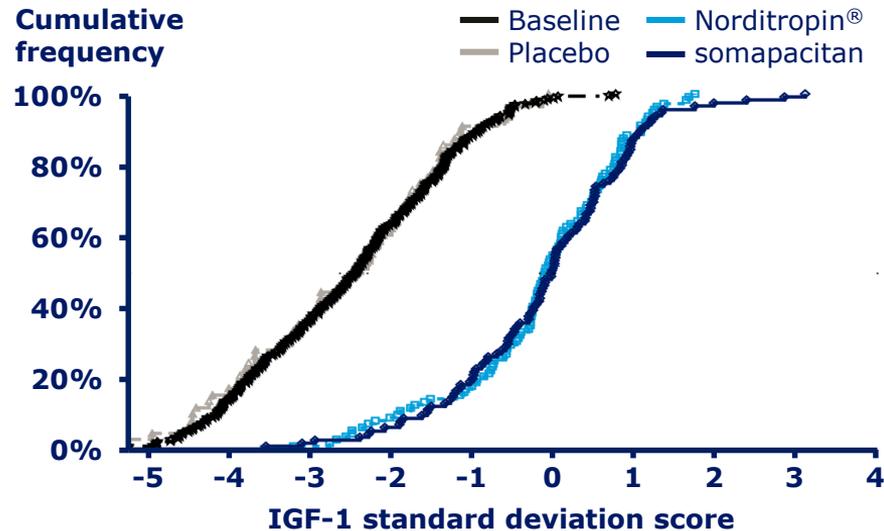
Source: IQVIA monthly MAT Feb, 2019 volume figures

Note: Does not add up to 100% due to rounding

<sup>1</sup> 'Other' consists of more than 19 other companies with no single company holding more than 4% volume market share

# Phase 3 extension trial in adults and phase 2 trial in children for once-weekly somapacitan

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



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

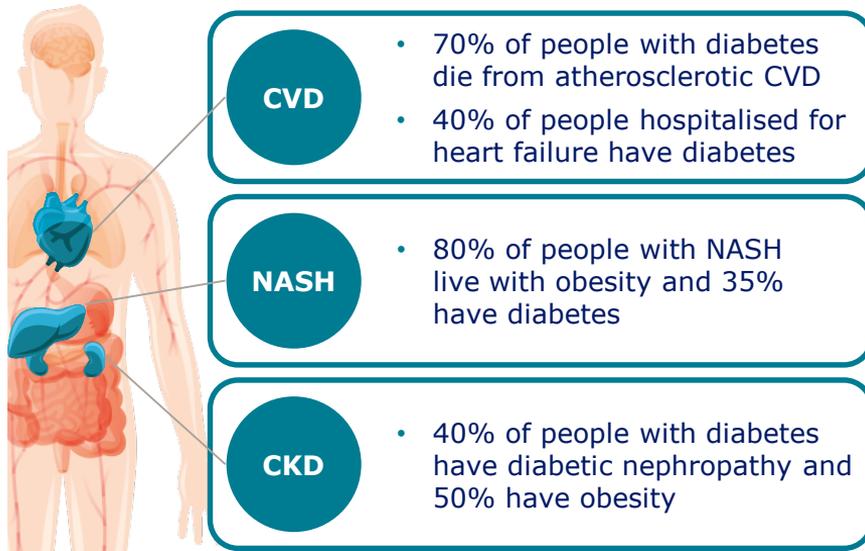
## Phase 3a AGHD extension trial and phase 2 GHD successfully completed



AGHD: Adult growth hormone deficiency; 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
<b>CVD</b>	~420 million	~20 million annually

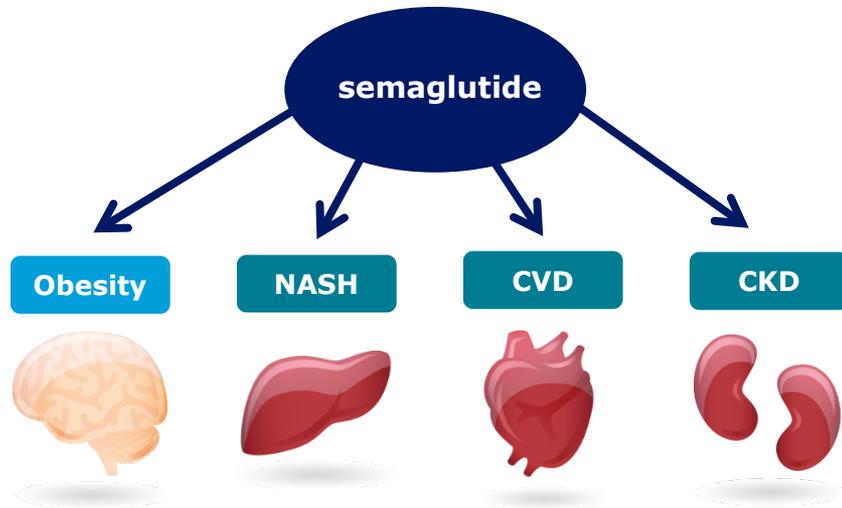
	Estimated patients	Diagnosis rate
<b>NASH</b>	~15-40 million <sup>1</sup>	~20% <sup>2</sup>
<b>CKD</b>	~200 million	~20%

<sup>1</sup> Internal forecast comprising the USA, Europe and Japan

<sup>2</sup> 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

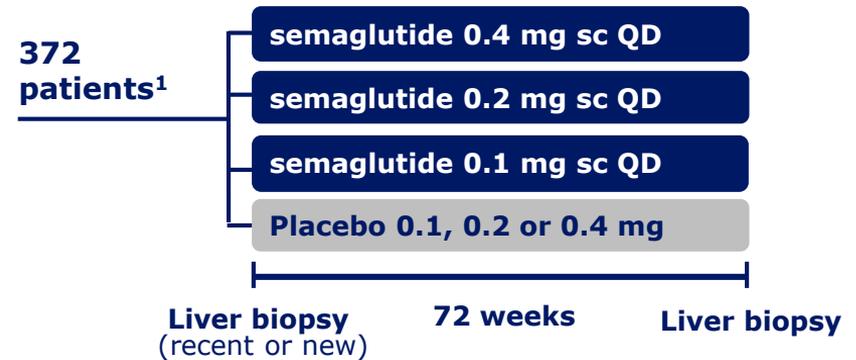
# Trials in obesity and other serious chronic disease areas building on the semaglutide molecule

## 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

<sup>1</sup> Inclusion criteria: Histological confirmation of NASH, BMI 25–45 kg/m<sup>2</sup>, 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; NASH: Non-alcoholic steatohepatitis

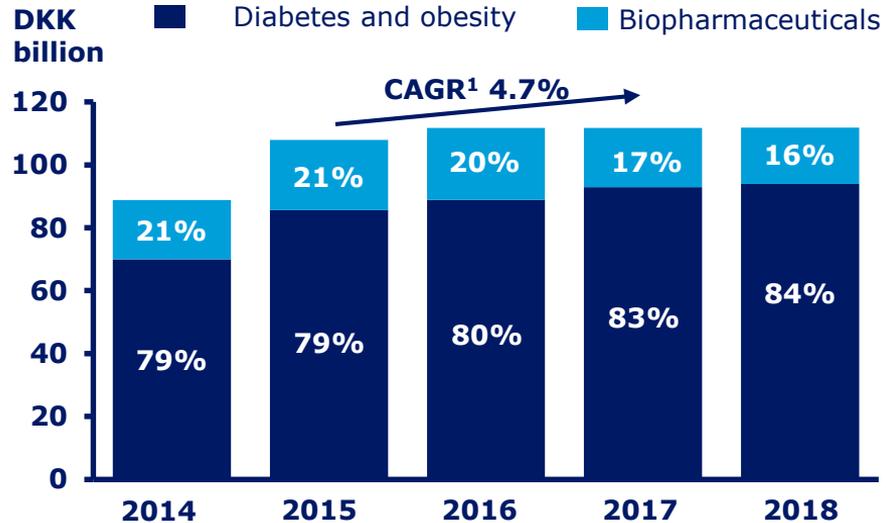
# Financials



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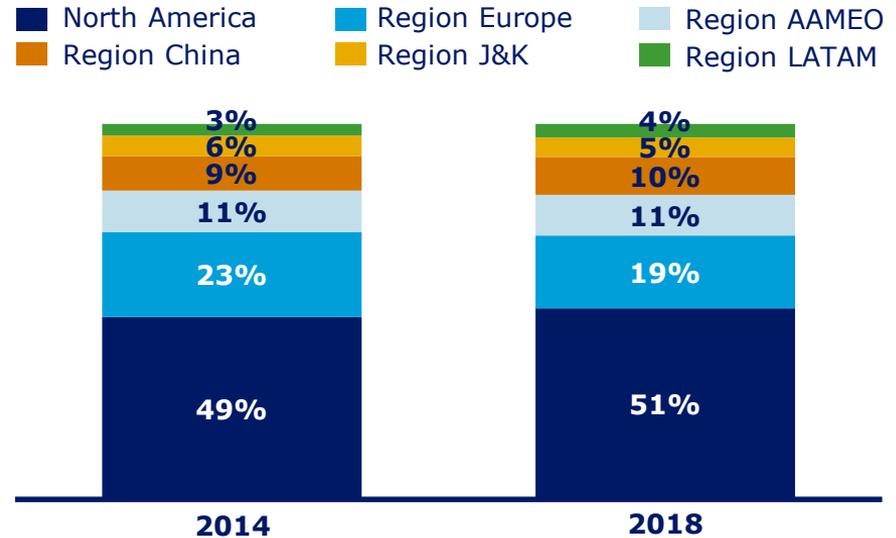
# Solid sales growth driven by diabetes and obesity

## Reported annual sales 2014-2018



<sup>1</sup> CAGR for 5-year period

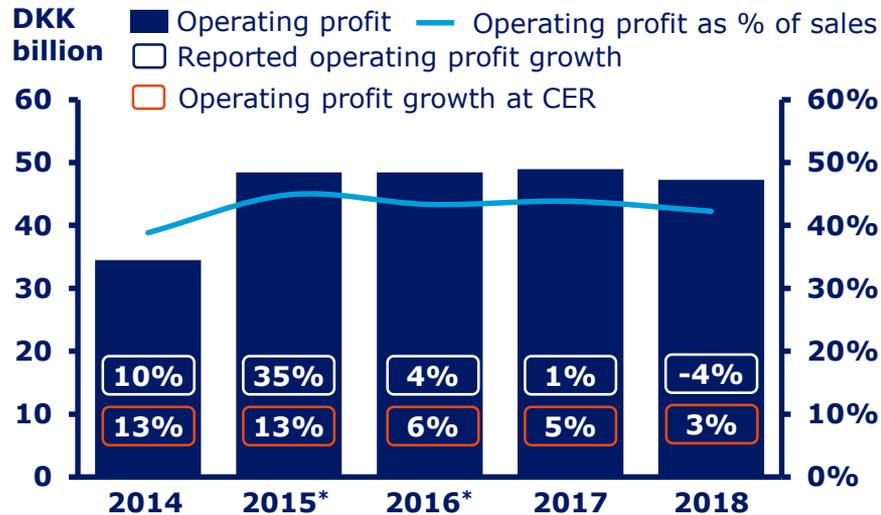
## Reported annual sales split by region



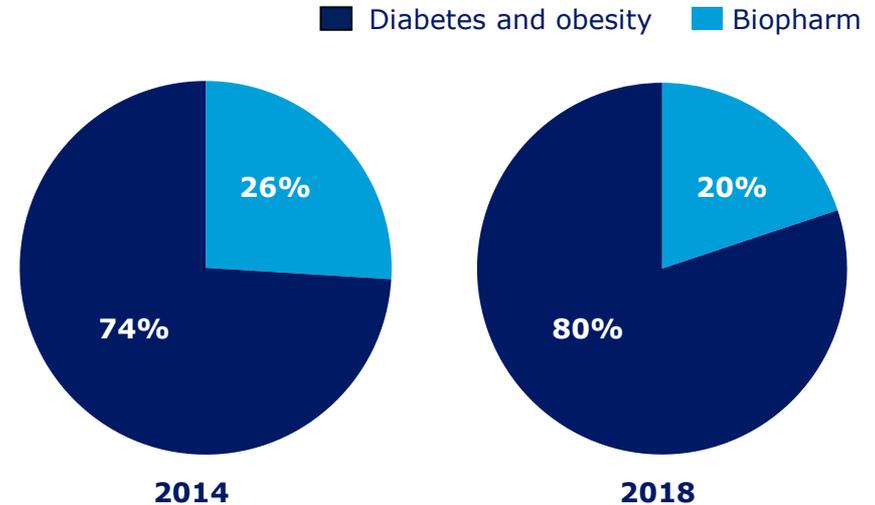
AAMEO: Africa, Asia, Middle East & Oceania; J&K: Japan and Korea; LATAM: Latin America

# Solid operating profit growth driven by diabetes

## Operating profit



## Operating profit split per franchise

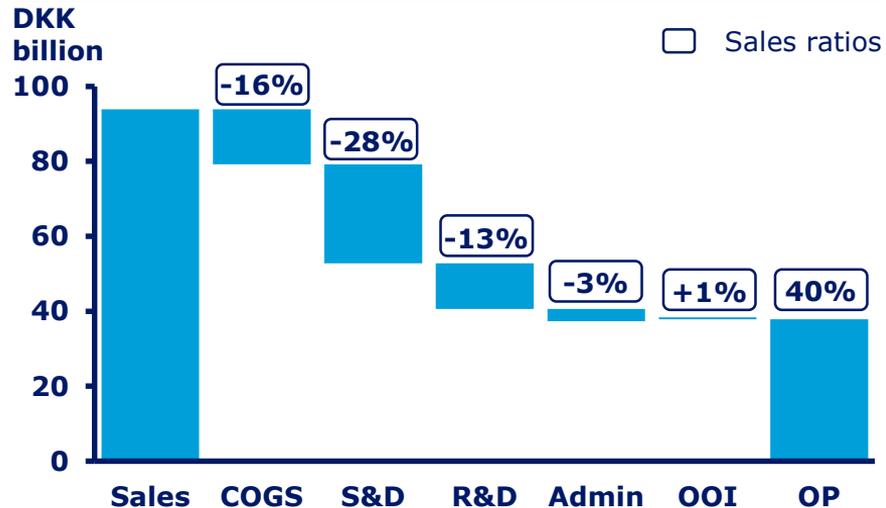


\*Adjusted for the partial divestment of NNIT A/S and inflammatory out-licensing in 2015

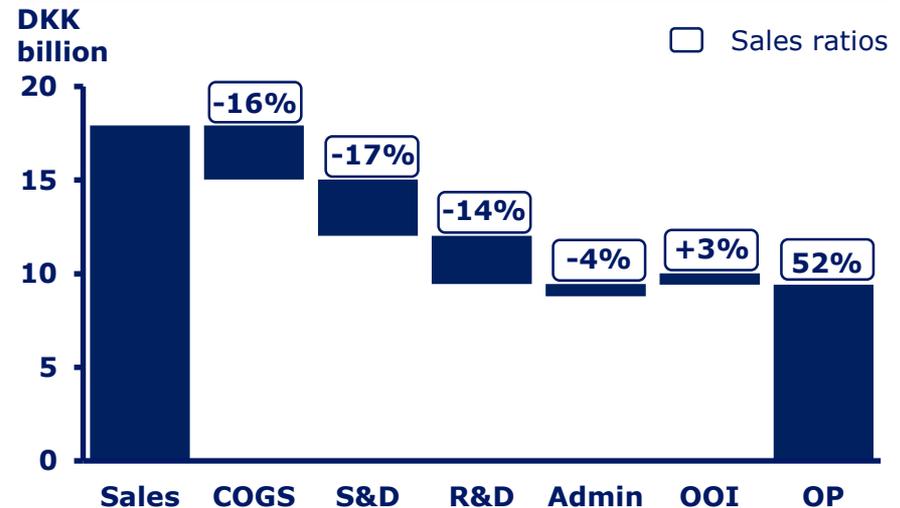
CER: Constant exchange rates

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

## Diabetes & Obesity P&L – full year 2018

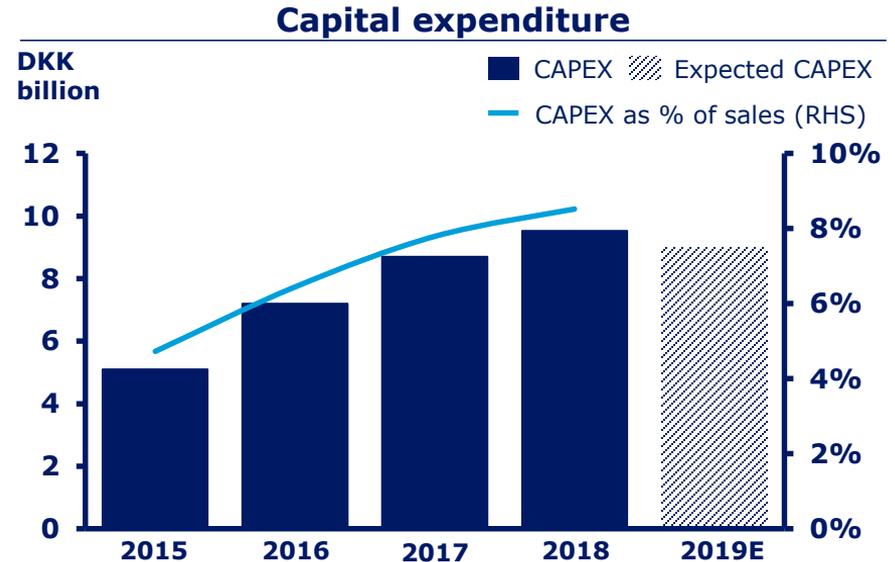
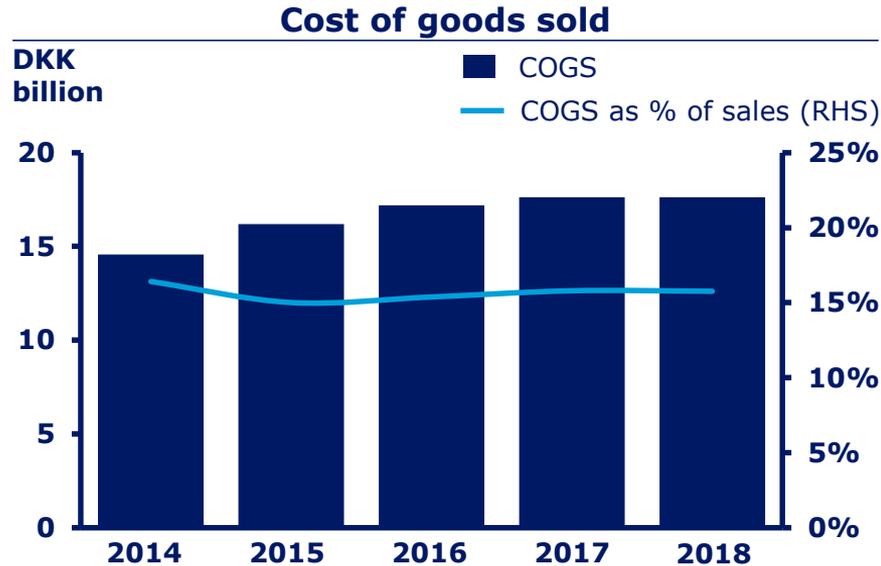


## Biopharmaceuticals P&L – full year 2018



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

# Stable COGS level as percentage of sales and increasing CAPEX level for new production facilities

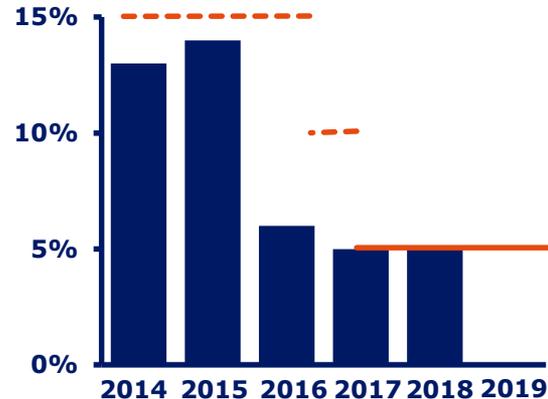


COGS: Cost of goods sold; CAPEX: Capital expenditure; RHS: Right hand side

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

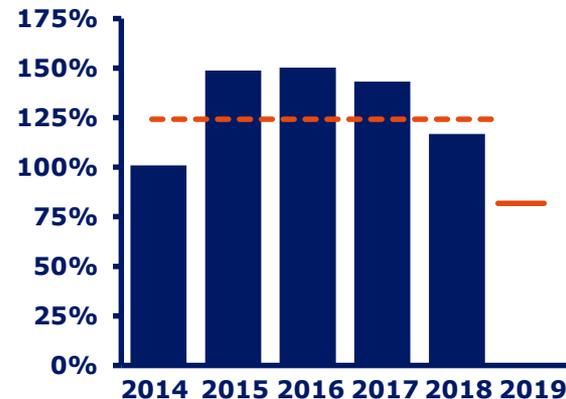
## Operating profit growth at CER

- Current long-term financial target<sup>1</sup>
- - - Previous long-term financial targets



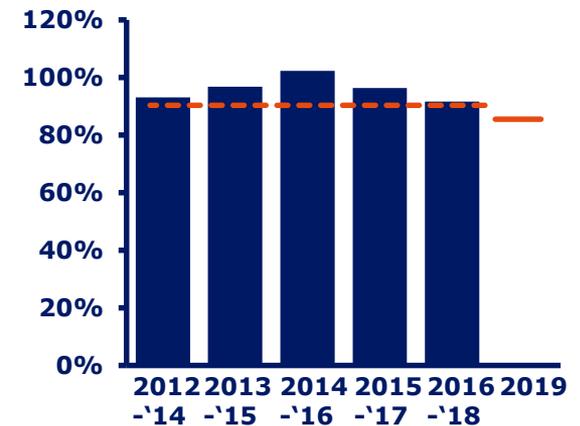
## Operating profit after tax to net operating assets

- Current long-term financial target<sup>1</sup>
- - - Previous long-term financial targets



## Cash to earnings (three-year average)

- Current long-term financial target<sup>1</sup>
- - - Previous long-term financial targets

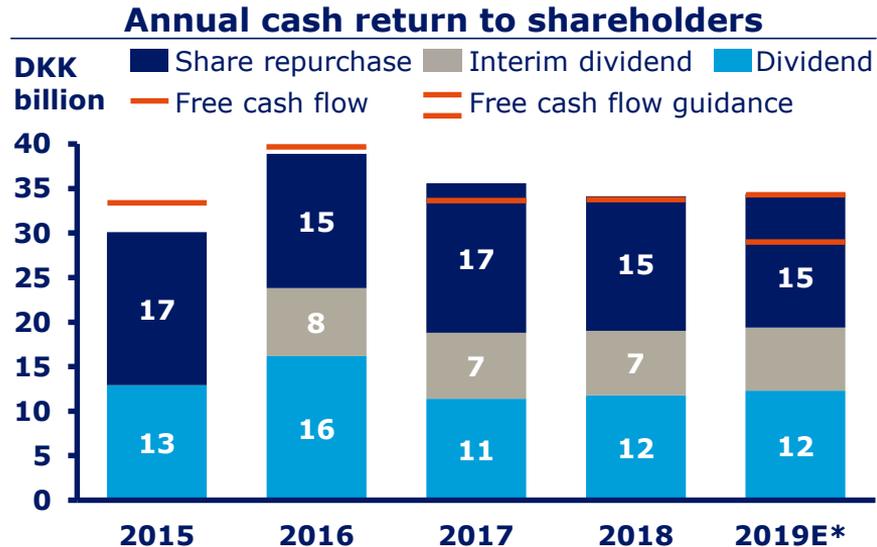


<sup>1</sup> Long-term target established in connection with the Q3 2016 report. The target of an average operating profit growth of 5% is an average for the period of 3-5 years, with 2015 as the base year. Operating profit after tax to net operating assets target adjusted from 125% to 80% starting in 2019. Cash to earnings (three year average) target adjusted from 90% to 85%. Operating profit growth target unchanged at 5%.

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

CER: Constant exchange rates

# Cash return to shareholders in 2019



## Cash return priorities

- Share repurchase programme of up to DKK 15 billion to be executed during 12 months, starting 1 February 2019
- Total programme may be reduced in size if significant bolt-on acquisition opportunities arise during 2019
- For 2018, the total dividend increased 4% to DKK 8.15 per share of DKK 0.20 (including interim dividend of DKK 3.00 per share paid in August 2018), resulting in a total pay-out ratio of 50.6%.

Note: For 2019 expected free cash flow is DKK 29-34 billion. Share repurchase programmes run for 12 months starting Feb until end Jan of the following year.

EXAMPLE

# 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 65-85% of the total currency exposure
- No hedging effects are included in the operating profit

INCOME STATEMENT	2018	2017
DKK million		
Net sales	111,831	111,696
Gross profit	94,214	94,064
Gross margin	84.2%	84.2%
Sales and distribution costs	29,397	28,340
Percentage of sales	26.3%	25.4%
Research and development costs	14,805	14,014
Percentage of sales	13.2%	12.5%
Administrative costs	3,916	3,784
Percentage of sales	3.5%	3.4%
Other operating income, net	1,152	1,041
Operating profit	42,248	48,967
Operating margin	42.2%	43.8%
Financial items (net)	367	(287)
Profit before income taxes	47,615	48,680
Income taxes	8,907	10,550
Effective tax rate	18.9%	21.7%
Net profit	38,628	38,130
Net profit margin	34.5%	34.1%

## 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 9 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.

Note: Example is based on Annual Report 2018

# Currency impact on operating profit

## Operational currency impact

### Operational currency impact in 2018

- 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 2018 the operating profit was:
  - In Danish kroner: 47,248 million
  - In local currencies: 50,346 million
  - Currency impact: **-3,098 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 65-85% 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 2018, the depreciation of the ARS and TRY had an additional negative impact on the operational currency exposure.

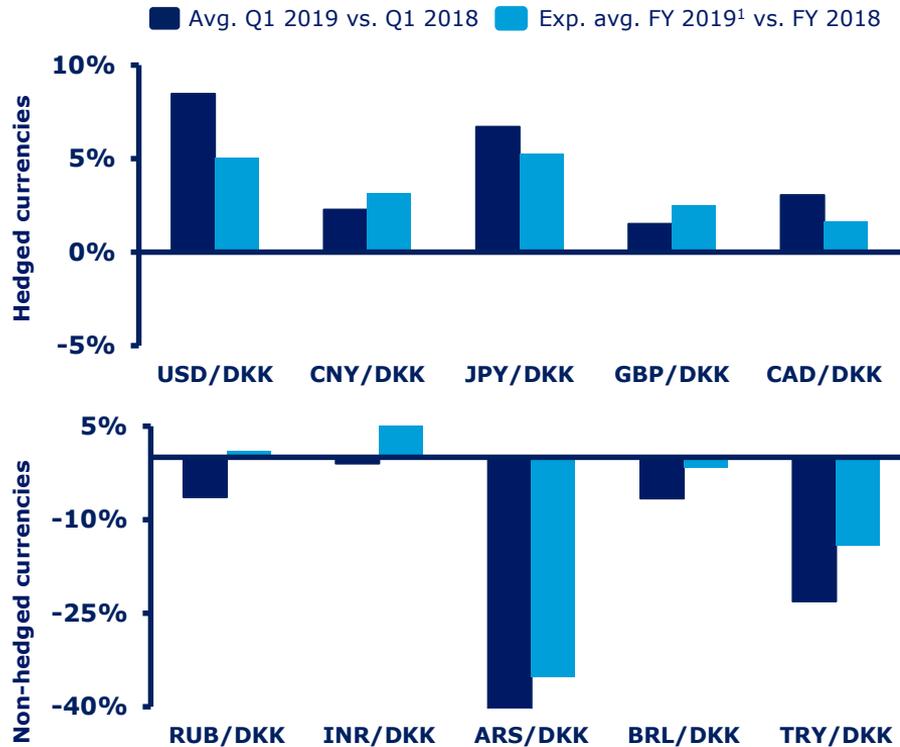
Key currencies	Avg. FX rate 2017	Avg. FX rate 2018	%-change	Yearly impact of 5% change <sup>2</sup> (mDKK)	Estimated impact from key currencies
USD	660	632	-4%	1,900	-1,610
CNY	98	95	-2%	325	-142
JPY	5.9	5.7	-3%	170	-93
GBP	849	842	-1%	90	-13
CAD	508	488	-4%	80	-65
<b>Total estimated currency impact from key currencies in 2018</b>					<b>-1,924</b>
ARS	0.4	0.2	-40%		
TRY	181	134	-26%		
INR	10.1	9.2	-9%		
RUB	11.3	10.1	-11%		
BRL	207	174	-16%		
<b>Total currency impact from other currencies in 2018 (residual)</b>					<b>-1,173</b>
<b>Total currency impact in 2018</b>					<b>-3,098</b>

<sup>1</sup> Yearly impact on operating profit for next 12 months. Estimates reflected in Annual Report 2018; <sup>2</sup> Yearly impact on operating profit for next 12 months as reported in the Annual Report 2017

FX: Foreign exchange

Note: For updated quarterly data for right-hand-side table, please see next slide.

# Favourable currency impact in first quarter of 2018 from hedged currencies



Hedged Currencies	Q1 2018 avg.	Q1 2019 avg.	Spot rate <sup>3</sup>	Impact of a 5% move <sup>4</sup>	Hedging (months)
USD <sup>2</sup>	606	657	665	2,100	10
CNY <sup>2</sup>	95	97	99	375	6 <sup>5</sup>
JPY <sup>2</sup>	5.6	6.0	6.0	160	12
GBP <sup>2</sup>	843	856	865	85	10
CAD <sup>2</sup>	480	494	495	100	9

Non-hedged Currencies	Q1 2018 avg.	Q1 2019 avg.	Spot rate <sup>3</sup>
ARS <sup>2</sup>	0.3	0.2	0.2
TRY <sup>2</sup>	159	122	112
INR <sup>2</sup>	9.4	9.3	9.6
RUB <sup>2</sup>	10.7	10.0	10.3
BRL <sup>2</sup>	187	174	169

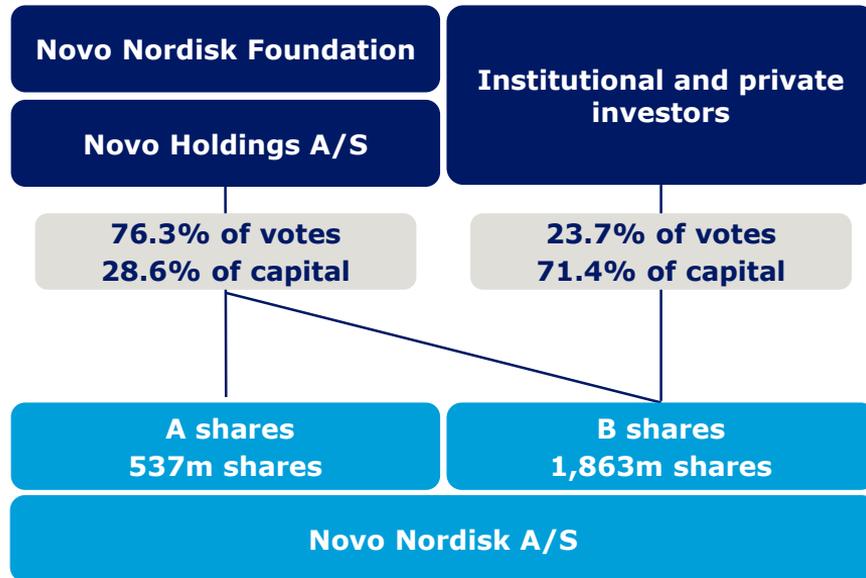
<sup>1</sup> Year-to-date realised data and remainder expected flat currency development based on the spot rate as of 30 April 2019

<sup>2</sup> DKK per 100; <sup>3</sup> Spot rate as of 30 April 2019; <sup>4</sup> Impact on operating profit in the next 12 months of a 5% immediate currency move. DKK million per annum; <sup>5</sup> 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

# Stable ownership structure

- secured through A and B-share structure

## Share structure

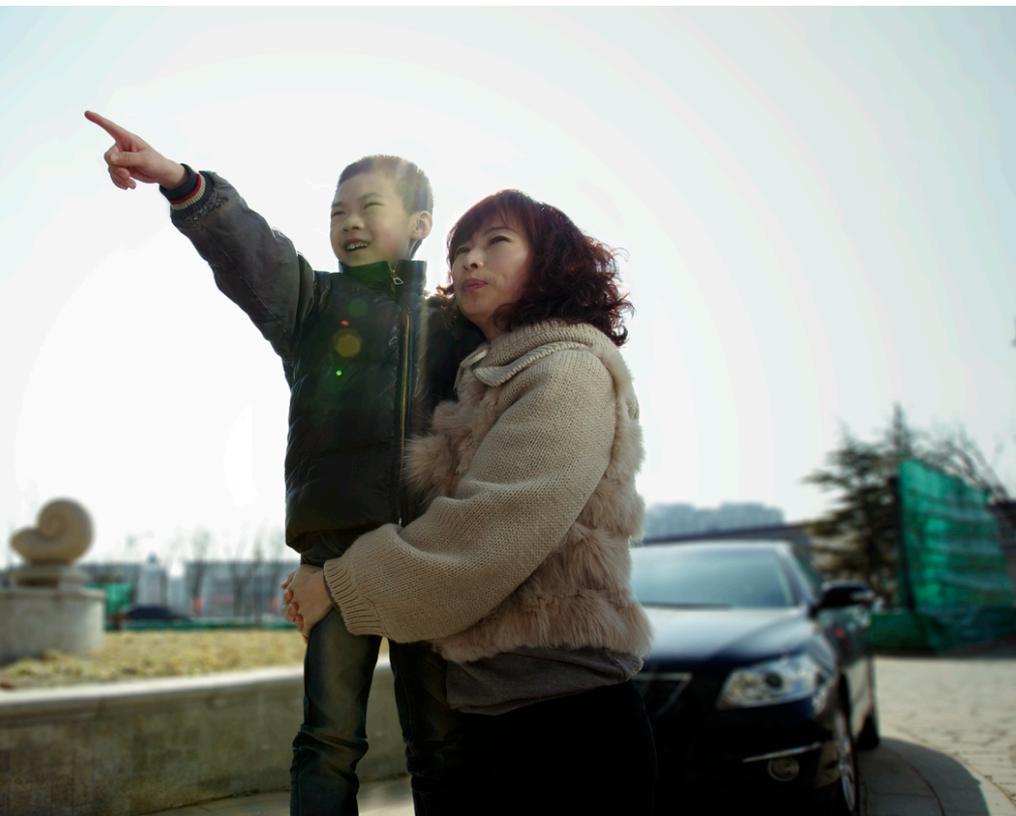


Note: As of 24 Apr 2018. Treasury shares are included, however voting rights of treasury shares cannot be exercised

## The Novo Nordisk Foundation

- The Novo Nordisk Foundation is a self-governing institution that
  - provides a stable basis for Novo Nordisk and
  - 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. Sustainable business

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2. Novo Nordisk Way and Triple Bottom Line

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3. Changing Diabetes®

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4. Circular for Zero

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# Novo Nordisk's ambition is to be a sustainable business

**By sustainable  
business,  
we mean**

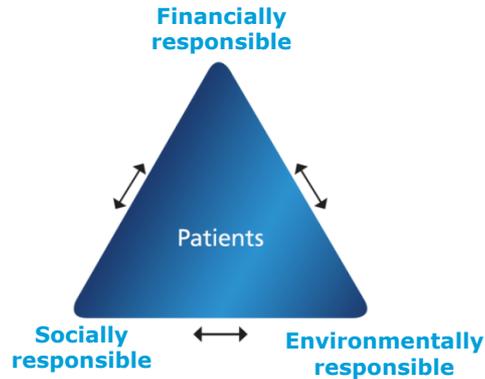
...creating **long-term value** for patients, employees, partners and shareholders by developing innovative and competitive solutions to patients' unmet needs

...doing business in a financially, environmentally and socially **responsible way**

...**anticipating, adapting to and creating** new business opportunities from changes in our business environment

# The Triple Bottom Line is the foundation for how Novo Nordisk creates value and stays successful

## 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

## The Novo Nordisk Way



The **Novo Nordisk Way** sets direction, unites us around a common purpose and spells out expected behaviours in a way that is consistent understood by everyone

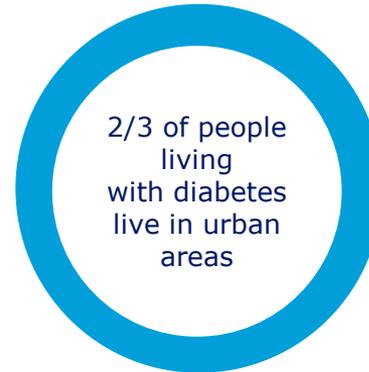
# Cities Changing Diabetes™ aims to break the 'Rule of Halves' by tackling urban diabetes

Global partnership platform to develop an approach to fight urban diabetes

At present nineteen partner cities with more than 130 million citizens



- Map the challenge in selected cities
- Share learning and best practices on how to break the 'Rule of Halves'
- Implement action plans with local partners



- Beijing
- Beirut
- Buenos Aires
- Copenhagen
- Hangzhou
- Houston
- Jakarta
- Johannesburg
- Koriyama
- Leicester
- Madrid
- Merida
- Mexico City
- Milan
- Rome
- Shanghai
- Tianjin
- Vancouver
- Xiamen

Urban diabetes: Type 2 diabetes in cities

# Enhancing access to affordable medicines is a key priority

## Product quality and patient safety is material



**29.2 million** patients reached with diabetes care products



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



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



**3** product recalls  
**0** failed inspections

## Access to insulin commitment expanded

Novo Nordisk guarantees to make low-priced human insulin available in the world's least developed and low-income countries, selected middle-income countries and selected humanitarian relief organisations

**78 countries,** home of **124 million** people with diabetes



2018/2019 maximum price **4 USD/vial**  
**0.3 million<sup>1</sup>** people treated at USD 0.12 per day in average

Note: Full social statements to be found in Novo Nordisk Annual Report 2018

changing  
diabetes®

<sup>1</sup> This reflects the people covered by the 'Access to insulin commitment'.



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

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



~42,700 FTEs



91% employee engagement score

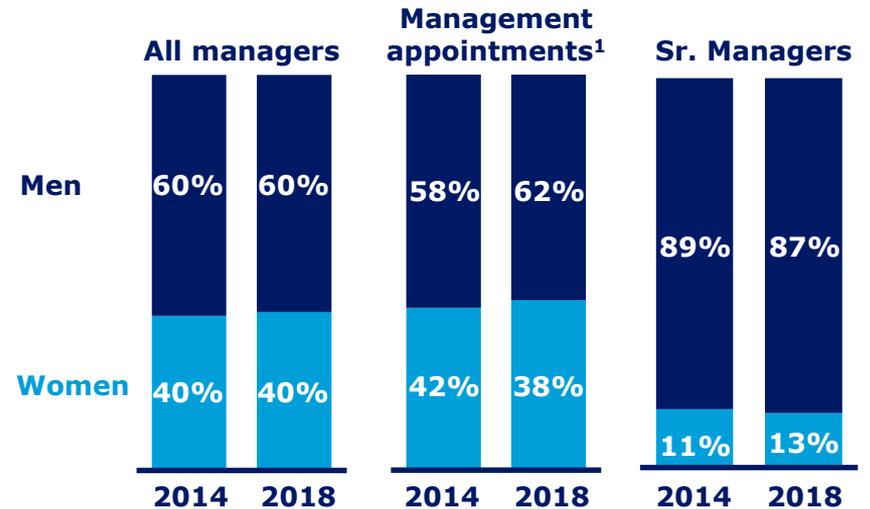


11.7% employee turnover



2.4 accidents with absence per million working hours

## Novo Nordisk is committed to building a diverse and inclusive culture



Note: Full social statements to be found in Novo Nordisk Annual Report 2018  
FTE: Full time employee

changing  
diabetes®

<sup>1</sup> All appointments to management positions, incl. internal promotions and external hires, excl. NNIT



# Novo Nordisk has set a bold ambition to have zero negative environmental impact – based on a circular mindset

## Use of resources, emissions and waste with a focus on recovery and re-use



**77% of power for production** is from renewable energy



**86% of water use** is in areas not subject to water stress or large seasonal variations



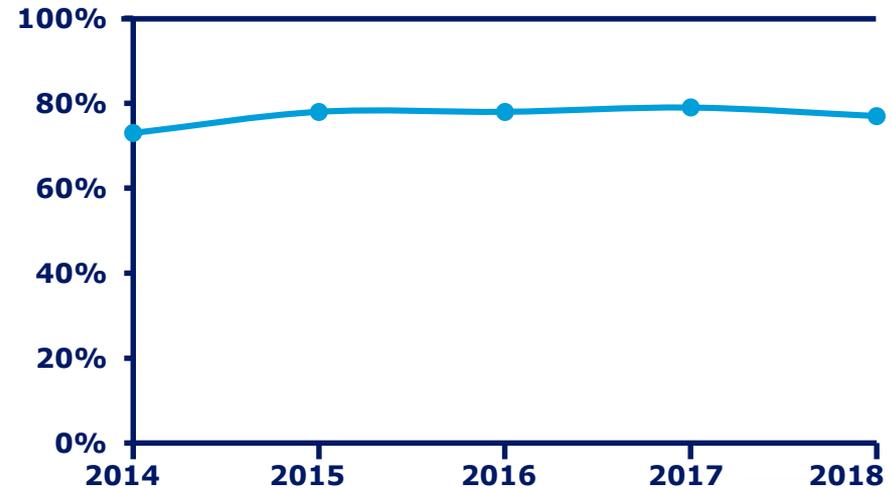
**Tracking of CO<sub>2</sub> emissions expanded** to global scope, covering production, product distribution, offices, laboratories, business flights and company cars



**94% 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 environmental statements to be found in Novo Nordisk Annual Report 2018