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)

Note: Unless otherwise specified sales and growth numbers are as reported in Danish kroner
CER: Constant exchange rates; FDA: Food and Drug Administration; CV: Cardiovascular; CHMP: Committee for Medicinal Products for Human Use
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

- IO: Insulin (13%), GLP-1 (5%), Other diabetes (29%), Biopharm (9%), Obesity (9%), Growth at CER (20%)
- AAMEO: Insulin (9%), GLP-1 (6%), Other diabetes (6%), Biopharm (6%), Obesity (6%), Growth at CER (24%)
- China: Insulin (29%), GLP-1 (9%), Other diabetes (9%), Biopharm (9%), Obesity (9%), Growth at CER (20%)
- Japan & Korea: Insulin (9%), GLP-1 (6%), Other diabetes (6%), Biopharm (6%), Obesity (6%), Growth at CER (24%)
- Latin America: Insulin (9%), GLP-1 (6%), Other diabetes (6%), Biopharm (6%), Obesity (6%), Growth at CER (24%)

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 were 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

<table>
<thead>
<tr>
<th>Therapy areas</th>
<th>International Operations</th>
<th>North America Operations</th>
<th>Growth at CER</th>
</tr>
</thead>
<tbody>
<tr>
<td>DKK billion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4%</td>
<td>2%</td>
<td>11%</td>
</tr>
<tr>
<td>2</td>
<td>13%</td>
<td>25%</td>
<td>51%</td>
</tr>
<tr>
<td>1</td>
<td>13%</td>
<td>146%</td>
<td>1%</td>
</tr>
<tr>
<td>0</td>
<td>-4%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>-1</td>
<td>-13%</td>
<td>13%</td>
<td>-3%</td>
</tr>
<tr>
<td>-2</td>
<td>-13%</td>
<td>13%</td>
<td>-3%</td>
</tr>
</tbody>
</table>

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

1 “Other diabetes” is included in Total
CER: Constant exchange rates; IO: International Operations; NAO: North America Operations

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%

<table>
<thead>
<tr>
<th>Value market share</th>
<th>Global</th>
<th>IO</th>
<th>NAO</th>
<th>Market share gain/loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value market share</td>
<td>28.1%</td>
<td>22.1%</td>
<td>30.4%</td>
<td>+0.6%-p</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Volume market share</th>
<th>Global</th>
<th>IO</th>
<th>NAO</th>
<th>Market share gain/loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2019</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Value market share</td>
<td>46.7%</td>
<td>49.4%</td>
<td>40.2%</td>
<td>+0.6%-p, +0.3%-p, +1.0%-p</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Weekly NBRx share</th>
<th>Jan 2018</th>
<th>Apr 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>NN GLP-1</td>
<td>60%</td>
<td>50.2%</td>
</tr>
<tr>
<td>Victoza®</td>
<td>50%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Ozempic®</td>
<td>40%</td>
<td>30.5%</td>
</tr>
<tr>
<td>dulaglutide</td>
<td>30%</td>
<td>19.6%</td>
</tr>
<tr>
<td>exenatide</td>
<td>20%</td>
<td>8.5%</td>
</tr>
<tr>
<td>albiglutide</td>
<td>10%</td>
<td>0%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Monthly volume share</th>
<th>Denmark</th>
<th>Switzerland</th>
<th>Ireland</th>
<th>Netherlands</th>
<th>Sweden</th>
<th>Norway</th>
<th>Finland</th>
<th>UK</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0%</td>
<td>0%</td>
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<td>10%</td>
<td>31%</td>
<td>20%</td>
<td>21%</td>
<td>1%</td>
<td>7%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
<td>34%</td>
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<tr>
<td>20%</td>
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<td>30%</td>
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<td>40%</td>
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<td>50%</td>
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<td>60%</td>
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</tr>
</tbody>
</table>

Source: NBRx-IQVIA LRx Weekly, week ending 14 Apr 2019
NBRx: New-to-brand prescriptions

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**

- **Quarterly TRx (million)**
- **Annual market growth (RHS)**
- **exenatide ER**
- **other GLP-1s**
- **Ozempic®**
- **Victoza®**

**Market growth**

- Q1 2017: 0%
- Q2 2017: 20%
- Q3 2017: 25%
- Q4 2017: 30%
- Q1 2018: 35%
- Q2 2018: 40%
- Q3 2018: 45%
- Q4 2018: 50%
- Q1 2019: 55%
- Feb 2019: 60%
- Apr 2019: 65%

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

1 Growth rate three months year over year

RHS: Right hand side; TRx: Total prescription volume

**USA GLP-1 volume market share**

- **Monthly TRx share**
- **Feb 2017**
- **Apr 2019**

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

46.1%
32.3%
11.8%
9.8%
Saxenda® sales growth of 51% in first quarter of 2019 and market development activities continue globally

Novo Nordisk has market leadership within the global obesity market

- Novo Nordisk maintains market leadership with 55% value market share
- Saxenda® is now launched in 41 countries

- 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

- 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

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

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

- 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

Biopharm sales supported by strong global commercial execution

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

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Oral semaglutide</th>
<th>Oral semaglutide (CV indication)</th>
<th>Ozempic® (CV indication)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2019</td>
<td>Expected review time: 6 months</td>
<td>Expected review time: 10 months</td>
<td>Expected review time: 10 months</td>
</tr>
<tr>
<td>Q2 2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3 2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4 2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1 2020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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

| **Diabetes** | • Oral semaglutide filed with the US FDA for diabetes with six months review time and in the EU and Canada  
• Oral semaglutide and Ozempic® US FDA filed for CV risk reduction indications with ten months review time  
• Tresiba® shows overall lower risk of hypoglycaemia, significantly lower HbA$_{1c}$ and insulin dose compared to insulin glargine U300 |
| **Obesity** | • Phase 2 trial initiated for the long-acting amylin analogue, AM833, in people with overweight or obesity |
| **Biopharm** | • 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  
• Breakthrough Therapy Designation granted by the US FDA for concizumab for prophylaxis treatment of people with haemophilia B and inhibitors  
• Phase 1/2 paediatric trial initiated for Macrilen® for diagnosis of growth hormone deficiency |
| **Other serious chronic diseases** | • Gilead Sciences and Novo Nordisk to collaborate on a joint clinical trial in NASH |

FDA: Food and Drug Administration; CHMP: Committee for Medicinal Products for Human Use; CV: Cardiovascular; NASH: Non-alcoholic steatohepatitis
## R&D milestones in 2019

<table>
<thead>
<tr>
<th>Project</th>
<th>Q1 2019</th>
<th>Q2 2019</th>
<th>Q3 2019</th>
<th>Q4 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tresiba®</strong></td>
<td></td>
<td><strong>Phase 3b results</strong> (vs glargine U300)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ozempic®</strong></td>
<td>Phase 1 initiation ✓</td>
<td><strong>US submission</strong> (CV label update) ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Anti-IL-21</strong></td>
<td></td>
<td><strong>US submission</strong> ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LAI287</strong></td>
<td></td>
<td><strong>US submission</strong> (CV) ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LAIsema</strong></td>
<td></td>
<td><strong>Phase 2 initiation</strong> ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oral semaglutide</strong></td>
<td><strong>US submission</strong> ✓</td>
<td><strong>Phase 2 initiation</strong> ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Amylin - AM833</strong></td>
<td></td>
<td></td>
<td><strong>US regulatory decision</strong> ✓</td>
<td></td>
</tr>
<tr>
<td><strong>Tri-agonist 1706</strong></td>
<td></td>
<td><strong>US regulatory decision</strong> ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PYY 1562</strong></td>
<td></td>
<td><strong>Phase 2 initiation</strong> ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Esperoct®/N8-GP</strong></td>
<td><strong>US regulatory decision</strong> ✓</td>
<td><strong>CHMP recommendation</strong> ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Concizumab</strong></td>
<td></td>
<td><strong>Phase 3 initiation</strong> (GHD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Somapacitan</strong></td>
<td></td>
<td><strong>US and EU submission</strong> (AGHD)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Diabetes**
- **Obesity**
- **Haemophilia**
- **Growth disorders**

1 Expected to be published in the given quarter or in the subsequent quarterly company announcement; 2 Diabetic retinopathy outcome trial; 3 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

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

CER: Constant exchange rates
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 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 sales increased by 51% driven by IO (146% sales growth) and NAO (13% sales growth). Saxenda® is now launched in 41 countries

### 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
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

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Ann Søndermølle Rendbæk +45 3075 2253 arnd@novonordisk.com
Kristoffer Due Berg (USA) +1 609 235 2989 krdb@novonordisk.com

Upcoming events
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
# Appendix

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<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
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<td>1. Novo Nordisk at a glance</td>
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<td>42</td>
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<tr>
<td>3. GLP-1 diabetes</td>
<td>69</td>
</tr>
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<td>85</td>
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<tr>
<td>7. Sustainable business</td>
<td>117</td>
</tr>
</tbody>
</table>
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

**Global insulin market leadership**
- Global insulin market share: 47%
  - Region Europe: Market share 44%
  - Region China: Market share 51%
  - Region AAMEO: Market share 57%
  - Region Latin America: Market share 48%
  - North America Operations: Market share 40%
  - Region Japan & Korea: Market share 50%

CER: Constant exchange rates

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

- Diabetes care: 81%
- Obesity: 57%
- Growth disorders biopharmaceuticals: 14%
- Haemophilia: 5%

Sales of DKK 29.3 billion (+9%)

Growth break down for first quarter of 2019

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

\(^1\) Comprises Tresiba\(^\), Xultophy\(^\) and Levemir\(^\); \(^2\) Comprises Ryzodeg\(^\) and NovoMix\(^\)
\(^3\) Comprises Fiasp\(^\) and NovoRapid\(^\); \(^4\) Comprises Victoza\(^\) and Ozempic\(^\)
\(^5\) Primarily NovoNorm\(^\) and needles; \(^6\) Comprises NovoSeven\(^\), NovoEight\(^\), NovoThirteen\(^\) and Refixia\(^\)
\(^7\) Primarily Vagifem\(^\) and Activevle\(^\)

Note: Refixia\(^\) and NovoThirteen\(^\) are launched as Rebinyn\(^\) and TRETTE\(^\), 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**

- Region AAMEO 29%
- Region Europe 5%
- Region China 11%
- Region Japan & Korea 16%
- Region Latin America 14%
- North America Operations 4%

**Growth break down for first quarter of 2019**

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

AAMEO: Africa, Asia, Middle East & Oceania

Sales of DKK 29.3 billion (+9%)
Novo Nordisk reported quarterly sales by therapy

<table>
<thead>
<tr>
<th>DKK billion</th>
<th>Diabetes and obesity</th>
<th>Haemophilia(^2)</th>
<th>Norditropin(^*)</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reported sales CAGR\(^1\): 9.0%

\(^1\) CAGR for 10-year period
\(^2\) Haemophilia comprises NovoSeven\(^*\), NovoThirteen\(^*\), NovoEight\(^*\) and Refixia\(^*\)

Sales growth driven by the diabetes and obesity franchise

Reported sales split by product segments for first quarter of 2019

- Long-acting insulin
- Premix insulin
- Fast-acting insulin
- Human insulin
- GLP-1
- Other diabetes and obesity
- Other biopharmaceuticals

Sales of DKK 29.3 billion (+9%)

Note: Numbers do not add up to 100 due to rounding
Novo Nordisk has leading positions in diabetes, obesity and haemophilia

### Diabetes
- **CAGR¹ value: 16.5%**
- **CAGR² value: 14.1%**

1. CAGR for 5-year period
2. CAGR for 2-year period

Source: IQVIA MAT, Feb 2019 value figures

### Obesity
- **CAGR¹ value: 1.1%**

Source: Company reports

### Haemophilia
- **CAGR¹ value: 1.1%**

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

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

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

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

- **11.2 mio** treated with human insulins
- **12.5 mio** treated with modern insulin
- **0.9 mio** treated with new-generation insulin
- **1.4 mio** treated with GLP-1

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

- **26 of 425 million** people with diabetes are treated with NN products

NN: Novo Nordisk
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
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

- **Total market:** CAGR\(^1\) 15.0%
- **Injectables:** CAGR\(^1\) 17.9%

Novo Nordisk remain global diabetes value market leader

- **Source:** IQVIA MAT, Feb 2019 value figures

1 CAGR for 10-year period
OAD: Oral anti-diabetic

Source: IQVIA MAT, Feb 2019 value figures
North America Operations at a glance

Diabetes trend in population

- Population with diabetes
- Diabetes growth rate

Million

<table>
<thead>
<tr>
<th>Year</th>
<th>Population with diabetes</th>
<th>Diabetes growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>12</td>
<td>150%</td>
</tr>
<tr>
<td>2017</td>
<td>30</td>
<td>107%</td>
</tr>
<tr>
<td>2045</td>
<td>62</td>
<td></td>
</tr>
</tbody>
</table>

Diabetes trend in population: Population with diabetes and diabetes growth rate from 2000 to 2045.

Diabetes market by value and Novo Nordisk market share

- NN Insulin MS
- NN GLP-1 MS
- NN OAD MS

Million

<table>
<thead>
<tr>
<th>Year</th>
<th>NN Insulin MS</th>
<th>NN GLP-1 MS</th>
<th>NN OAD MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
<td>23.3%</td>
<td>16.0%</td>
<td>40.2%</td>
</tr>
<tr>
<td>Feb 2019</td>
<td>16.0%</td>
<td>40.2%</td>
<td>23.3%</td>
</tr>
</tbody>
</table>

Novo Nordisk reported sales

<table>
<thead>
<tr>
<th>Q1 2019</th>
<th>Sales (mDKK)</th>
<th>Growth²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-acting insulin³</td>
<td>3,027</td>
<td>(6%)</td>
</tr>
<tr>
<td>Premix insulin⁴</td>
<td>289</td>
<td>(35%)</td>
</tr>
<tr>
<td>Fast-acting insulin⁵</td>
<td>2,366</td>
<td>(14%)</td>
</tr>
<tr>
<td>Human insulin</td>
<td>378</td>
<td>(28%)</td>
</tr>
<tr>
<td>Total insulin</td>
<td>6,060</td>
<td>(13%)</td>
</tr>
<tr>
<td>GLP-1⁶</td>
<td>5,305</td>
<td>7%</td>
</tr>
<tr>
<td>Other diabetes⁷</td>
<td>203</td>
<td>(14%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>11,568</td>
<td>(5%)</td>
</tr>
<tr>
<td>Obesity (Saxenda®)</td>
<td>671</td>
<td>13%</td>
</tr>
<tr>
<td>Biopharmaceuticals⁸</td>
<td>1,665</td>
<td>(3%)</td>
</tr>
<tr>
<td>Total</td>
<td>13,904</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

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

1 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

2 At constant exchange rates
³ Comprises Tresiba®, Xultophy® and Levemir®; ⁴ Comprises NovoMix®;
⁵ Comprises Fiasp® and NovoRapid®; ⁶ Comprises Victoza® and Ozempic®;
⁷ Comprises NovoNorm® and needles; ⁸ Comprises primarily NovoSeven®, NovoEight®, NovoThirteen®, Refixia®, Norditropin®, Vagifem® and Activeile®
International Operations at a glance

Diabetes trend in population

- Diabetes growth rate: 48% from 2000 to 2017, 342% from 2000 to 2045.

Diabetes market by value and Novo Nordisk market share

- NN Insulin MS: 567 billion DKK
- NN GLP-1 MS: 567 billion DKK
- NN OAD MS: 567 billion DKK

Novo Nordisk reported sales

- Q1 2019 Sales (mDKK): 15,387 billion
- Growth: 13%

- Long-acting insulin: 2,217 billion, 17%
- Premix insulin: 2,468 billion, 10%
- Fast-acting insulin: 2,611 billion, 17%
- Human insulin: 2,037 billion, 7%
- Total insulin: 9,333 billion, 13%
- GLP-1: 1,842 billion, 25%
- Other diabetes: 864 billion, (6%)
- Diabetes: 12,039 billion, 13%
- Obesity (Saxenda®): 540 billion, 146%
- Biopharmaceuticals: 2,808 billion, 1%

1 CAGR calculated for 5-year period
2 At constant exchange rates
3 Comprises Tresiba®, Xultophy® and Levemir®
4 Comprises Ryzodeg® and NovoMix®
5 Comprises Fiasp® and NovoRapid®
6 Comprises Victoza® and Ozempic®
7 Comprises NovoSeven®, NovoEight®, NovoThirteen®, Refixia®, Norditropin®, Vagifem® and Activelle®
8 Comprises primarily NovoSeven®, NovoEight®, NovoThirteen®, Refixia®, Norditropin®, Vagifem® and Activelle®

International Operations Population 2018: ~7 billion people and diabetes prevalence ~8%
Region Europe at a glance

**Diabetes trend in population**

- Population with diabetes
- Diabetes growth rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Population with diabetes (Million)</th>
<th>Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>66</td>
<td>23</td>
</tr>
<tr>
<td>2045</td>
<td>81</td>
<td></td>
</tr>
</tbody>
</table>

**Diabetes market by value and Novo Nordisk market share**

- NN Insulin MS
- NN GLP-1 MS
- NN OAD MS

**Novo Nordisk reported sales**

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

Europe Population 2018: ~0.7 billion people and regional diabetes prevalence ~9.1%  

1 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

2 At constant exchange rates  
3 Comprises Tresiba®, Xultophy® and Levemir®; 4 Comprises NovoMix® and Ryzodeg®; 5 Comprises Fiasp® and NovoRapid®; 6 Comprises Victoza® and Ozempic®; 7 Comprises NovoNorm® and needles;  
8Comprises primarily NovoSeven®, NovoEight®, NovoThirteen®, Refixia®, Norditropin®, Vagifem® and Activelle®
Region AAMEO at a glance

Diabetes trend in population

- Population with diabetes
- Diabetes growth rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Population with diabetes (Million)</th>
<th>Diabetes growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>170</td>
<td>76%</td>
</tr>
<tr>
<td>2045</td>
<td>300</td>
<td>325%</td>
</tr>
</tbody>
</table>

Diabetes market by value and Novo Nordisk market share

- NN Insulin MS
- NN GLP-1 MS
- NN OAD MS

Novo Nordisk reported sales

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

$^1$ CAGR calculated for last 5-year period

$^2$ At constant exchange rates

$^3$ Comprises Tresiba®, Xultophy® and Levemir®
$^4$ Comprises NovoMix® and Ryzodeg®
$^5$ Comprises NovoRapid®
$^6$ Comprises Victoza®
$^7$ Comprises NovoNorm® and needles
$^8$ Comprises primarily NovoSeven®, NovoEight®, NovoThirteen®, Norditropin®, Vagifem® and Activelle®

AAMEO: Africa, Asia, the Middle-East and Oceania
AAMEO population 2018: ~4 billion people and regional diabetes prevalence ~7.3%
Region China at a glance

Diabetes trend in population

- Population with diabetes
- Diabetes growth rate

Million

<table>
<thead>
<tr>
<th>Year</th>
<th>Population with Diabetes (Million)</th>
<th>Diabetes Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>20</td>
<td>500%</td>
</tr>
<tr>
<td>2017</td>
<td>121</td>
<td>7%</td>
</tr>
<tr>
<td>2045</td>
<td>130</td>
<td></td>
</tr>
</tbody>
</table>

Diabetes market by value and Novo Nordisk market share

- NN Insulin MS
- NN GLP-1 MS
- NN OAD MS

<table>
<thead>
<tr>
<th>Year</th>
<th>bDKK</th>
<th>OAD</th>
<th>GLP-1</th>
<th>Insulin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
<td>20</td>
<td>121</td>
<td>461</td>
<td>797</td>
</tr>
<tr>
<td>Feb 2019</td>
<td>24</td>
<td>130</td>
<td>214</td>
<td>797</td>
</tr>
</tbody>
</table>

Novo Nordisk reported sales

<table>
<thead>
<tr>
<th>Q1 2019</th>
<th>Sales (mDKK)</th>
<th>Growth²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-acting insulin³</td>
<td>270</td>
<td>29%</td>
</tr>
<tr>
<td>Premix insulin⁴</td>
<td>1,112</td>
<td>10%</td>
</tr>
<tr>
<td>Fast-acting insulin⁵</td>
<td>461</td>
<td>22%</td>
</tr>
<tr>
<td>Human insulin</td>
<td>797</td>
<td>(3%)</td>
</tr>
<tr>
<td>Total insulin</td>
<td>2,640</td>
<td>9%</td>
</tr>
<tr>
<td>GLP-1⁶</td>
<td>214</td>
<td>90%</td>
</tr>
<tr>
<td>Other diabetes⁷</td>
<td>437</td>
<td>(14%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>3,291</td>
<td>8%</td>
</tr>
<tr>
<td>Obesity (Saxenda®)</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Biopharmaceuticals⁸</td>
<td>82</td>
<td>41%</td>
</tr>
<tr>
<td>Total</td>
<td>3,375</td>
<td>9%</td>
</tr>
</tbody>
</table>

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


¹ CAGR calculated for last 5-year period
² At constant exchange rates
³ Comprises Tresiba® and Levemir®; ⁴ Comprises NovoMix®;
⁵ Comprises NovoRapid®; ⁶ Comprises Victoza®; ⁷ Comprises NovoNorm® and needles; ⁸ Comprises primarily NovoSeven®, NovoEight® and Norditropin®

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
Region Japan & Korea at a glance

Diabetes trend in population

<table>
<thead>
<tr>
<th>Year</th>
<th>Population with diabetes (Million)</th>
<th>Diabetes growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>11</td>
<td>18%</td>
</tr>
<tr>
<td>2017</td>
<td>13</td>
<td>20%</td>
</tr>
<tr>
<td>2045</td>
<td>16</td>
<td>33.8%</td>
</tr>
</tbody>
</table>

Population with diabetes prevalence = 18% in 2000, increasing to 33.8% by 2045. The trend shows a significant increase in the number of people with diabetes in the region.

Diabetes market by value and Novo Nordisk market share

- **Insulin MS**: Novo Nordisk has a significant market share in the insulin market with a share of 57% in 2019.
- **GLP-1 MS**: Novo Nordisk also holds a substantial share in the GLP-1 market with 30%.
- **OAD MS**: Novo Nordisk's OAD segment has a market share of 5.6%.

Novo Nordisk reported sales

<table>
<thead>
<tr>
<th>Product Category</th>
<th>Sales (mDKK)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-acting insulin</td>
<td>207</td>
<td>1%</td>
</tr>
<tr>
<td>Premix insulin</td>
<td>158</td>
<td>2%</td>
</tr>
<tr>
<td>Fast-acting insulin</td>
<td>177</td>
<td>12%</td>
</tr>
<tr>
<td>Human insulin</td>
<td>40</td>
<td>10%</td>
</tr>
<tr>
<td>Total insulin</td>
<td>582</td>
<td>5%</td>
</tr>
<tr>
<td>GLP-1</td>
<td>147</td>
<td>10%</td>
</tr>
<tr>
<td>Other diabetes</td>
<td>104</td>
<td>17%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>833</td>
<td>0%</td>
</tr>
<tr>
<td>Obesity (Saxenda®)</td>
<td>77</td>
<td>-</td>
</tr>
<tr>
<td>Biopharmaceuticals</td>
<td>548</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,458</strong></td>
<td>9%</td>
</tr>
</tbody>
</table>

Japan & Korea population 2018: ~0.2 billion people and diabetes prevalence ~7.0%


1 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

2 At constant exchange rates

3 Comprises Tresiba® and Levemir®; 4 Comprises NovoMix® and Ryzodeg®; 5 Comprises NovoRapid®; 6 Comprises Victoza®; 7 Comprises NovoNorm® and needles; 8 Comprises primarily NovoSeven®, NovoEight®, NovoThirteen® and Norditropin®
Region Latin America at a glance

**Diabetes trend in population**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population with diabetes</th>
<th>Diabetes growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>20</td>
<td>60%</td>
</tr>
<tr>
<td>2017</td>
<td>32</td>
<td>84%</td>
</tr>
<tr>
<td>2045</td>
<td>68</td>
<td></td>
</tr>
</tbody>
</table>

**Diabetes market by value and Novo Nordisk market share**

- NN Insulin MS
- NN GLP-1 MS
- NN OAD MS

**Novo Nordisk reported sales**

<table>
<thead>
<tr>
<th>Q1 2019</th>
<th>Sales (mDKK)</th>
<th>Growth²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-acting insulin³</td>
<td>190</td>
<td>14%</td>
</tr>
<tr>
<td>Premix insulin⁴</td>
<td>30</td>
<td>(3%)</td>
</tr>
<tr>
<td>Fast-acting insulin⁵</td>
<td>131</td>
<td>77%</td>
</tr>
<tr>
<td>Human insulin</td>
<td>240</td>
<td>57%</td>
</tr>
<tr>
<td>Total insulin</td>
<td>591</td>
<td>40%</td>
</tr>
<tr>
<td>GLP-1⁶</td>
<td>159</td>
<td>35%</td>
</tr>
<tr>
<td>Other diabetes⁷</td>
<td>14</td>
<td>(17%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>764</td>
<td>37%</td>
</tr>
<tr>
<td>Obesity (Saxenda®)</td>
<td>159</td>
<td>90%</td>
</tr>
<tr>
<td>Biopharmaceuticals⁸</td>
<td>388</td>
<td>(17%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,311</strong></td>
<td><strong>20%</strong></td>
</tr>
</tbody>
</table>

¹ CAGR calculated for last 5-year period

² At constant exchange rates

³ Comprises Tresiba®, Xultophy® and Le vemir®;
⁴ Comprises NovoMix® and Ryzodeg®;
⁵ Comprises NovoRapid®;
⁶ Comprises Victoza®;
⁷ Comprises NovoNorm® and needles;
⁸ Comprises primarily NovoSeven®, NovoEight® and Norditropin®

Latin America population 2018: ~0.6 billion people and diabetes prevalence ~9.3%

Investor presentation First quarter of 2019
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 sales¹

<table>
<thead>
<tr>
<th>Year</th>
<th>Other biopharmaceuticals</th>
<th>Norditropin®</th>
<th>Other haemophilia products</th>
<th>NovoSeven®</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>5.0</td>
<td>9.5</td>
<td>1.5</td>
<td>4.0</td>
</tr>
<tr>
<td>2016</td>
<td>5.5</td>
<td>9.0</td>
<td>2.0</td>
<td>4.5</td>
</tr>
<tr>
<td>2017</td>
<td>6.0</td>
<td>9.5</td>
<td>2.5</td>
<td>5.0</td>
</tr>
<tr>
<td>2018</td>
<td>6.5</td>
<td>10.0</td>
<td>3.0</td>
<td>5.5</td>
</tr>
<tr>
<td>2019 YTD</td>
<td>7.0</td>
<td>10.5</td>
<td>3.5</td>
<td>6.0</td>
</tr>
</tbody>
</table>

¹ Reported sales for Q1 2019

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

- 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

<table>
<thead>
<tr>
<th>Strategic Priority</th>
<th>R&amp;D Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengthen leadership in DIABETES</strong></td>
<td>• Develop disruptive insulin and GLP-1 based products with distinct clinical and/or delivery advantages</td>
</tr>
<tr>
<td></td>
<td>• Develop novel mechanisms that reverse the course of diabetes, act as insulin sensitisers and improve hard clinical endpoints</td>
</tr>
<tr>
<td><strong>Strengthen leadership in OBESITY</strong></td>
<td>• Develop new biologics combined with GLP-1 to achieve &gt;20% weight loss</td>
</tr>
<tr>
<td><strong>Pursue leadership in HAEMOPHILIA</strong></td>
<td>• Pursue subcutaneous bypassing and mimicking agents</td>
</tr>
<tr>
<td><strong>Strengthen leadership in GROWTH DISORDERS</strong></td>
<td>• Bring long-acting growth hormone to market and expand indications</td>
</tr>
<tr>
<td><strong>Expand into other SERIOUS CHRONIC DISEASES</strong></td>
<td>• Enter NASH, CVD and CKD by leveraging GLP-1 and other internal assets as well as in-licensing external opportunities</td>
</tr>
</tbody>
</table>

---

**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**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>PHASE 2</th>
<th>PHASE 3</th>
<th>SUBMITTED</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>NN1535  – LAlsema</td>
<td>NN1436 – LAI287</td>
<td>Semaglutide obesity</td>
<td>Oral semaglutide</td>
<td>Tresiba®</td>
</tr>
<tr>
<td>NN9023 – OG2023SC</td>
<td>Anti-IL-21 and liraglutide</td>
<td>Somapacitan – QW AGHD²</td>
<td></td>
<td>Xultophy®</td>
</tr>
<tr>
<td>NN9747 – PYY 1562 analogue</td>
<td>NN9838 – Amylin AM833</td>
<td></td>
<td></td>
<td>Levemir®</td>
</tr>
<tr>
<td>NN9277 – GG-co-agonist</td>
<td>Concizumab</td>
<td></td>
<td></td>
<td>Ryzodeg®</td>
</tr>
<tr>
<td>NN9423 – Tri-agonist 1706</td>
<td>Somapacitan – QW GHD¹</td>
<td></td>
<td></td>
<td>NovoMix®</td>
</tr>
<tr>
<td>NN9775 – PYY 1875 analogue</td>
<td>Semaglutide NASH</td>
<td></td>
<td></td>
<td>Fiasp®</td>
</tr>
<tr>
<td>NN7533 - Eclipse</td>
<td></td>
<td></td>
<td></td>
<td>NovoRapid®</td>
</tr>
</tbody>
</table>

1 Study conducted in growth hormone disorders; 2 Study conducted in adult growth hormone disorder; 3 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

---

1 Study conducted in growth hormone disorders; 2 Study conducted in adult growth hormone disorder; 3 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

---

1. Diabetes
2. Obesity
3. Haemophilia
4. Growth disorders
5. Other serious chronic diseases
Growth opportunities supported by strong global presence in both sales and manufacturing

Employees in sales regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America Operations</td>
<td>~4,300</td>
</tr>
<tr>
<td>Region AAMEO:</td>
<td>~4,650</td>
</tr>
<tr>
<td>Region China:</td>
<td>~3,300</td>
</tr>
<tr>
<td>Region Europe:</td>
<td>~2,900</td>
</tr>
<tr>
<td>Region Japan &amp; Korea:</td>
<td>~1,100</td>
</tr>
<tr>
<td>Region Latin America:</td>
<td>~1,000</td>
</tr>
</tbody>
</table>

Total non-HQ/manufacturing employees: ~18,700

Global manufacturing setup

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

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

<table>
<thead>
<tr>
<th></th>
<th>EU patent protection¹</th>
<th>US patent protection¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozempic®</td>
<td>2031</td>
<td>2031</td>
</tr>
<tr>
<td>Flas®</td>
<td>2030</td>
<td>2030</td>
</tr>
<tr>
<td>Esperect®</td>
<td>2034</td>
<td>2032</td>
</tr>
<tr>
<td>Xultoph®</td>
<td>2028</td>
<td>2029</td>
</tr>
<tr>
<td>Tresiba®</td>
<td>2028</td>
<td>2029</td>
</tr>
<tr>
<td>Ryzodeg®</td>
<td>2028</td>
<td>2029</td>
</tr>
<tr>
<td>Refixia®</td>
<td>2028</td>
<td>2027</td>
</tr>
<tr>
<td>Victoza®</td>
<td>2023²</td>
<td>2023², ³</td>
</tr>
<tr>
<td>Levemir®</td>
<td>2019</td>
<td>2019</td>
</tr>
<tr>
<td>NovoMix®</td>
<td>Expired⁴</td>
<td>Expired⁵</td>
</tr>
<tr>
<td>NovoRapid®</td>
<td>Expired⁶</td>
<td>Expired⁷</td>
</tr>
<tr>
<td>Norditropin®</td>
<td>Expired⁸</td>
<td>Expired⁸</td>
</tr>
</tbody>
</table>

¹ List does not include all marketed products. ² Including six months paediatric extension. ³ Licensed to Teva from June 2024 (assuming grant of paediatric extension). ⁴ Expired in 2015. ⁵ Expired in 2014. ⁶ Expired in 2011. ⁷ Expired in 2014. ⁸ 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
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.

![Liver](image1)
![Pancreas](image2)
![Fat cell](image3)
![Muscle](image4)

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

- Short-lived, rapidly generated meal-related peaks (*prandial*).
- Sustained Insulin profile (*basal*).

![Graph showing insulin levels at different times of day](graph)

- Breakfast
- Lunch
- Dinner

*Image credits: changing diabetes, novo nordisk*
Diabetes pandemic is fuelled by growing rates of obesity

Obesity prevalence has increased in recent years

<table>
<thead>
<tr>
<th>Year</th>
<th>&lt;20%</th>
<th>20%-&lt;25%</th>
<th>25%-&lt;30%</th>
<th>30%-&lt;35%</th>
<th>≥35%</th>
<th>No data</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Diabetes prevalence has increased in recent years

<table>
<thead>
<tr>
<th>Year</th>
<th>2.3-5.1%</th>
<th>5.2-6.5%</th>
<th>6.6-7.9%</th>
<th>8.0-9.8%</th>
<th>9.9-15.2%</th>
<th>No data</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 ≥ 30 kg/m². Data were collected through BRFSS.

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

CDC: Centers for Disease Control and Prevention
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 HbA1c in type 2 diabetes

Insulin is the ultimate care for people with diabetes

Progression of type 2 diabetes and treatment intensification

Distribution of patients and value across treatment classes

OAD: Oral anti-diabetic

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

- **Global diabetes market growth**
  - **Injectables market value**
    - 2018: USD 29 billion
    - 2017: USD 29 billion
    - Growth: 0%
  - **Branded OAD market value**
    - 2018: USD 13 billion
    - 2017: USD 13 billion
    - Growth: 1.2%

- **The USA**
  - **Total**
    - 2017: USD 23 billion
    - 2018: USD 22 billion
    - Growth: -3%
  - **Insulin**
    - 2017: USD 11 billion
    - 2018: USD 10 billion
    - Growth: -12%
  - **GLP-1**
    - 2017: USD 5 billion
    - 2018: USD 6 billion
    - Growth: 22%
  - **DPP-IV**
    - 2017: USD 4 billion
    - 2018: USD 4 billion
    - Growth: -12%
  - **SGLT-2**
    - 2017: USD 2 billion
    - 2018: USD 2 billion
    - Growth: 1%

- **Rest of world**
  - **Total**
    - 2017: USD 19 billion
    - 2018: USD 20 billion
    - Growth: 4%
  - **Insulin**
    - 2017: USD 11 billion
    - 2018: USD 11 billion
    - Growth: 0%
  - **GLP-1**
    - 2017: USD 17 billion
    - 2018: USD 17 billion
    - Growth: 2.6%
  - **DPP-IV**
    - 2017: USD 6 billion
    - 2018: USD 6 billion
    - Growth: 3%
  - **SGLT-2**
    - 2017: USD 1 billion
    - 2018: USD 2 billion
    - Growth: 24%

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**

- **Fast-acting**
- **Premix**
- **Long-acting**

**Global insulin volume market by segment**

- **Fast-acting**
  - CAGR volume: 4.3%
  - CAGR value: 13.1%
- **Premix**
  - 29%
- **Long-acting**
  - 34%

1 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

<table>
<thead>
<tr>
<th>Class</th>
<th>HbA1c change</th>
<th>Hypoglycaemia risk</th>
<th>Weight change</th>
<th>CVD risk</th>
<th>Dosing (per day)</th>
<th>Contraindication/undesired effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metformin</td>
<td>1.5</td>
<td>No</td>
<td>Neutral</td>
<td>Minimal</td>
<td>2 OADs</td>
<td>Kidney, liver</td>
</tr>
<tr>
<td>Sulfonylurea</td>
<td>1.5</td>
<td>Yes</td>
<td>Gain</td>
<td>None</td>
<td>1 OAD</td>
<td>Essentially none</td>
</tr>
<tr>
<td>TZDs</td>
<td>0.5 - 1.4</td>
<td>No</td>
<td>Gain</td>
<td>Varies</td>
<td>1 OAD</td>
<td>CHF, liver</td>
</tr>
<tr>
<td>DPP-IV inhibitors</td>
<td>0.6 - 0.8</td>
<td>No</td>
<td>Neutral</td>
<td>TBD</td>
<td>1-2 OADs</td>
<td>None</td>
</tr>
<tr>
<td>SGLT-2 inhibitors</td>
<td>0.5 - 0.9</td>
<td>No</td>
<td>Loss</td>
<td>Varies</td>
<td>1 OAD</td>
<td>Genital infections, urinary tract infections</td>
</tr>
<tr>
<td>GLP-1</td>
<td>1.0 - 2.0</td>
<td>No</td>
<td>Loss</td>
<td>Varies</td>
<td>Varies</td>
<td>GI side effects, MTC</td>
</tr>
<tr>
<td>Long-acting insulin</td>
<td>1.5 - 2.5</td>
<td>Yes</td>
<td>Gain</td>
<td>TG and HDL</td>
<td>1 injection</td>
<td>Hypoglycaemia</td>
</tr>
<tr>
<td>Fast-acting insulin</td>
<td>1.5 - 2.5</td>
<td>Yes</td>
<td>Gain</td>
<td>TG and HDL</td>
<td>1-4 injections</td>
<td>Hypoglycaemia</td>
</tr>
</tbody>
</table>

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.
Novo Nordisk’s current and future product portfolio covers the type 2 diabetes treatment cascade\(^1\)

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

<table>
<thead>
<tr>
<th>When metformin is not enough</th>
<th>When it’s time for insulin</th>
<th>When basal insulin is not enough</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral semaglutide</td>
<td>Tresiba(^{®})</td>
<td>Actrapid(^{®}) or Mixtard(^{®}) 30</td>
</tr>
<tr>
<td>Ozempic(^{®}) semaglutide injection</td>
<td>Xultophy(^{®})</td>
<td>or NovoMix(^{®}) or NovoRapid(^{®})</td>
</tr>
<tr>
<td>Victoza(^{®})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levemir(^{®})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulatard(^{®})</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) 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%

### Global
- **Market growth**: 2.7%
- **MS**: 46.7%
- **MS gain/loss**: +0.6%-p
- **Sales growth**: 2%

### North America Operations
- **USA**
  - **Market growth**: 0.6%
  - **MS**: 40.6%
  - **MS gain/loss**: +1.1%-p
  - **Sales growth**: -13%

### International Operations
- **Region Europe**
  - **Market growth**: 0.5%
  - **MS**: 43.9%
  - **MS gain/loss**: -0.5%-p
  - **Sales growth**: 3%

- **Region LATAM**
  - **Market growth**: 4.4%
  - **MS**: 47.8%
  - **MS gain/loss**: +5.3%-p
  - **Sales growth**: 40%

- **Region AAMEO**
  - **Market growth**: 7.8%
  - **MS**: 57.0%
  - **MS gain/loss**: +1.4%-p
  - **Sales growth**: 30%

- **Region China**
  - **Market growth**: 5.2%
  - **MS**: 50.7%
  - **MS gain/loss**: -2%-p
  - **Sales growth**: 9%

- **Region J&K**
  - **Market growth**: 1.4%
  - **MS**: 50.4%
  - **MS gain/loss**: +0.6%-p
  - **Sales growth**: -5%

Source: IQVIA MAT, Feb 2019 volume figures
Note: Sales growth at constant exchange rates; Market shares are for Novo Nordisk and market growth for the total insulin market.
J&K: Japan & Korea; MS: Market share; LATAM: Latin America; AAMEO: Africa, Asia, Middle East & Oceania
Stable global insulin volume growth

Regional insulin volume growth

- North America
- Region Europe
- Region AAMEO
- Region China
- Region J&K
- Region LATAM
- World

Regional insulin volume market split

- North America
- Region Europe
- Region AAMEO
- Region China
- Region J&K
- Region LATAM

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

<table>
<thead>
<tr>
<th>Segment</th>
<th>2014</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-acting insulin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAGR¹ volume</td>
<td>5.7%</td>
<td>5.7%</td>
</tr>
<tr>
<td>MI penetration²</td>
<td>76.2%</td>
<td>76.2%</td>
</tr>
<tr>
<td>Premix insulin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAGR¹ volume</td>
<td>1.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>MI penetration</td>
<td>48.3%</td>
<td>48.3%</td>
</tr>
<tr>
<td>Fast-acting insulin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAGR¹ volume</td>
<td>5.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>MI penetration</td>
<td>81.9%</td>
<td>81.9%</td>
</tr>
</tbody>
</table>

¹ CAGR for 5-year period; ² 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

1 Long-acting insulin comprises: Tresiba®, Levemir®, Xultophy® and Insulatard® (basal human insulin). Please note that not all products are launched in all markets
2 Premix insulin includes: Ryzodeg®, NovoMix® and Mixtard® 30 (premix human insulin). Please note that not all products are launched in all markets
3 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

- **Device penetration**
- **Modern insulin penetration**

- **CAGR volume**: 4.3%
- **CAGR value**: 13.1%

<table>
<thead>
<tr>
<th>Feb 2014</th>
<th>Feb 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human insulin</td>
<td></td>
</tr>
<tr>
<td>Market value: bDKK 282</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MI and NGI²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market value: bDKK 2,669</td>
</tr>
</tbody>
</table>

- **tMU Penetration**
- **Device penetration**
- **Modern insulin penetration**

- **CAGR volume**: 4.3%
- **CAGR value**: 13.1%

Global modern and new-generation insulin volume market shares

<table>
<thead>
<tr>
<th>Feb 2014</th>
<th>Feb 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novo Nordisk</td>
<td></td>
</tr>
<tr>
<td>46%</td>
<td></td>
</tr>
</tbody>
</table>

| Sanofi |
| 31% |

| Eli Lilly |
| 21% |

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**

- **Device penetration**
- **Modern insulin penetration**

<table>
<thead>
<tr>
<th>tMU</th>
<th>Feb 2014</th>
<th>Feb 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAGR volume(^1): 1.8%</td>
<td>Fast-acting</td>
<td></td>
</tr>
<tr>
<td>CAGR value(^1): 16.0%</td>
<td>Premix</td>
<td></td>
</tr>
<tr>
<td>Long-acting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Novo Nordisk</th>
<th>Sanofi</th>
<th>Eli Lilly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
<td>41%</td>
<td>31%</td>
<td>28%</td>
</tr>
<tr>
<td>Feb 2019</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) CAGR for 5-year period
Source: IQVIA monthly MAT, Feb 2019 volume and value figures

Note: Data is sensitive to changes in IQVIA data collection and reporting methodology, does not add up to 100% as only selected pharmaceutical companies are included
Source: IQVIA monthly MAT, Feb 2019 volume figures
Novo Nordisk increases volume market share in the US long-acting insulin segment

### USA long-acting insulin
- **CAGR volume**: 3.0%
- **MI penetration**: 71.4%

### USA premix insulin
- **CAGR volume**: (6.5%)%
- **MI penetration**: 51.3%

### USA fast-acting insulin
- **CAGR volume**: 2.7%
- **MI penetration**: 83.6%

---

1 CAGR for 5-year period; 2 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
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

<table>
<thead>
<tr>
<th></th>
<th>Managed care</th>
<th>Medicare</th>
<th>Medicaid</th>
<th>Uninsured</th>
<th>Other</th>
<th>US population (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>9%</td>
<td>23%</td>
<td>18%</td>
<td>8%</td>
<td>3%</td>
<td>326</td>
</tr>
<tr>
<td>2020</td>
<td>8%</td>
<td>22%</td>
<td>18%</td>
<td>3%</td>
<td>5%</td>
<td>333</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PBM</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVS Caremark</td>
<td>31%</td>
</tr>
<tr>
<td>Express Scripts</td>
<td>28%</td>
</tr>
<tr>
<td>OptumRx</td>
<td>22%</td>
</tr>
<tr>
<td>Prime</td>
<td>8%</td>
</tr>
<tr>
<td>Humana</td>
<td>3%</td>
</tr>
<tr>
<td>MedImpact</td>
<td>3%</td>
</tr>
<tr>
<td>All other PBMs</td>
<td>3%</td>
</tr>
</tbody>
</table>

1 2017 data reflect historical data through Oct 2017
2 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:

- Product flow
- Payment flow
- Rebates/discounts flow

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**

<table>
<thead>
<tr>
<th>Value market share</th>
<th>Victoza®</th>
<th>NovoLog®</th>
<th>Levemir®</th>
<th>Tresiba®</th>
<th>Ozempic®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Unrestricted Market access</th>
<th>Victoza®</th>
<th>NovoLog®</th>
<th>Levemir®</th>
<th>Tresiba®</th>
<th>Ozempic®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan 2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

- **CAGR value**: 3.6%
- **CAGR volume**: 4.5%

<table>
<thead>
<tr>
<th>Device penetration</th>
<th>MI and NGI penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>tMU</td>
<td></td>
</tr>
<tr>
<td>Feb 2014</td>
<td></td>
</tr>
<tr>
<td>Feb 2019</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>100%</td>
</tr>
<tr>
<td>160</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Penetration**

- **Fast-acting**: 44%
- **Premix**: 35%
- **Long-acting**: 19%

Source: IQVIA monthly MAT, Feb 2019 volume figures.
Note: Numbers do not add up to 100% due to smaller insulin manufacturers

European modern insulin and new-generation insulin volume market shares

<table>
<thead>
<tr>
<th>Novo Nordisk</th>
<th>Sanofi</th>
<th>Eli Lilly</th>
</tr>
</thead>
<tbody>
<tr>
<td>44%</td>
<td>35%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: IQVIA monthly MAT, Feb 2019 volume figures.

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

Source: IQVIA monthly MAT, Feb 2019 volume and value figures
Stable insulin leadership position in Region AAMEO

**Region AAMEO insulin market by segment**
- Device penetration
- MI and NGI penetration

- **CAGR volume**: 7.0%
- **CAGR value**: 4.2%

**Region AAMEO modern and new-generation insulin volume market shares**
- Novo Nordisk
- Sanofi
- Eli Lilly
- Other

<table>
<thead>
<tr>
<th>Region AAMEO modern and new-generation insulin volume market shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
</tr>
<tr>
<td>Feb 2019</td>
</tr>
</tbody>
</table>

1 CAGR for 5-year period.

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

Source: IQVIA monthly MAT, Feb 2019 volume figures.

AAMEO: Africa, Asia, the Middle East & Oceania; MI: Modern insulin; NGI: New-generation insulin.
Stable insulin market leadership position in Region Japan & Korea

Region Japan & Korea insulin market by segment
- Device penetration
- MI and NGI penetration

Penetration

CAGR volume\(^1\): 0.5%
CAGR value\(^1\): (1.8%)

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

- Novo Nordisk
- Sanofi
- Eli Lilly

Source: IQVIA monthly MAT, Feb 2019 volume figures

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

\(^1\) CAGR for 5-year period
MI: Modern insulin; NGI: New-generation insulin

# Slide 63
Solid Tresiba® performance strengthens basal insulin market share in Japan

---

**Japanese basal value market shares**

- Tresiba®
- Levemir®
- Glargine U100
- Glargine U300
- NPH
- Biosimilar glargine U100
- NN total Basal

---

**Japanese total insulin value market shares**

- Novo Nordisk
- Eli Lilly
- Sanofi

---

Source: IQVIA monthly MAT, Feb 2019 value figures

NPH: Novolin®
Continued value and volume growth in the Chinese insulin segments

**Chinese insulin market by segment**

- **Fast-acting**
- **Premix**
- **Long-acting**

**CAGR value**¹: 11.9%

**CAGR volume**¹: 9.0%

**Chinese total insulin value market shares**

- **Novo Nordisk**
- **Eli Lilly**
- **Tonghua Dongbao**
- **Sanofi**
- **Gan & Lee**
- **Other**

¹ 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**

<table>
<thead>
<tr>
<th>Device penetration</th>
<th>Modern insulin penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>tMU</td>
<td></td>
</tr>
<tr>
<td>Feb 2014</td>
<td>0%</td>
</tr>
<tr>
<td>Feb 2019</td>
<td>50%</td>
</tr>
</tbody>
</table>

**CAGR volume¹: 10.0%**

**CAGR value¹: 7.0%**

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

<table>
<thead>
<tr>
<th>Novo Nordisk</th>
<th>Eli Lilly</th>
<th>Sanofi</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>48%</td>
<td>25%</td>
<td>16%</td>
<td>12%</td>
</tr>
</tbody>
</table>

¹ 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

- **50% reduction in nocturnal hypoglycaemia**
- **53% reduction in nocturnal hypoglycaemia**

### Tresiba® has consistently demonstrated relevant reductions in severe hypoglycaemia

<table>
<thead>
<tr>
<th>Patients</th>
<th>Study</th>
<th>Hazard ratio [95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1D</td>
<td>BEGIN</td>
<td>1.12 [0.68; 1.86]</td>
</tr>
<tr>
<td></td>
<td>SWITCH 1</td>
<td>0.65 [0.48; 0.89]</td>
</tr>
<tr>
<td></td>
<td>SWITCH 2</td>
<td>0.74 [0.61; 0.90]</td>
</tr>
<tr>
<td>T2D</td>
<td>BEGIN</td>
<td>0.81 [0.42; 1.56]</td>
</tr>
<tr>
<td></td>
<td>SWITCH 2</td>
<td>0.54 [0.21; 1.42]</td>
</tr>
<tr>
<td></td>
<td>DEVOTE</td>
<td>0.49 [0.26; 0.94]</td>
</tr>
<tr>
<td></td>
<td>DEVOTE</td>
<td>0.60 [0.48; 0.76]</td>
</tr>
</tbody>
</table>

- Development period
- **Favours Tresiba®**
- **Favours comparator**

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

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

**2 DEVOTE, American Diabetes Association 77th Scientific Sessions, 3-CT-SY22, Jun 12 2017**

**IGlar U100:** Insulin glargine U100

**Insulatard®**

**Human insulin**

- Half life: 5-10 hours
- Variability: High

**New-generation insulin**

- **Tresiba®**
  - Half life: 25 hours
  - Variability: Low

**Modern insulin**

- **IGlar U100**
  - Half life: 12-19 hours
  - Variability: Low

**Human insulin**

- Half life: 5-10 hours
- Variability: High

**Insulatard®**

**Modern insulin**

- **IGlar U100**
  - Half life: 12-19 hours
  - Variability: Medium

**New-generation insulin**

- **Tresiba®**
  - Half life: 25 hours
  - Variability: Low

---

* Statistically significant difference

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

---

**Table:**

<table>
<thead>
<tr>
<th>Patients</th>
<th>Study</th>
<th>Hazard ratio [95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1D</td>
<td>BEGIN</td>
<td>1.12 [0.68; 1.86]</td>
</tr>
<tr>
<td></td>
<td>SWITCH 1</td>
<td>0.65 [0.48; 0.89]</td>
</tr>
<tr>
<td></td>
<td>SWITCH 2</td>
<td>0.74 [0.61; 0.90]</td>
</tr>
<tr>
<td>T2D</td>
<td>BEGIN</td>
<td>0.81 [0.42; 1.56]</td>
</tr>
<tr>
<td></td>
<td>SWITCH 2</td>
<td>0.54 [0.21; 1.42]</td>
</tr>
<tr>
<td></td>
<td>DEVOTE</td>
<td>0.49 [0.26; 0.94]</td>
</tr>
<tr>
<td></td>
<td>DEVOTE</td>
<td>0.60 [0.48; 0.76]</td>
</tr>
</tbody>
</table>

- **Favours Tresiba®**
- **Favours comparator**

---

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

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

---

**Source:** Ratner et al. Diabetes Obes Metab 2013; Lane et al. Diabetologia 2016;59; Wysham et al. Diabetologia 2016; DEVOTE, American Diabetes Association 77th Scientific Sessions, 3-CT-SY22, Jun 12 2017
GLP-1

1. GLP-1 treatment
2. GLP-1 market
3. Regional GLP-1 growth
4. GLP-1 patient profile
5. Victoza®
6. Ozempic®
7. GLP-1 market value and MS in Regions
8. Clinical trials (SUSTAIN & PIONEER)
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

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

Global GLP-1 market

- **Victoza®**
- **Ozempic®**
- exenatide
- dulaglutide
- other

GLP-1 value in bDKK

Share of total diabetes market

CAGR value¹: 36.7%

![Bar chart showing GLP-1 value and patient share of the total diabetes market]

- **GLP-1 value share of total diabetes**
- **GLP-1 patient share¹ of total diabetes**

<table>
<thead>
<tr>
<th>Region</th>
<th>GLP-1 value share</th>
<th>GLP-1 patient share</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Reg EU</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Reg LATAM</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Reg J&amp;K</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Reg AAMEO</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Reg China</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

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

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

¹ 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**

- North America
- Region Europe
- Region AAMEO
- Region J&K
- Region LATAM
- World

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

**Regional GLP-1 volume market split**

- North America
- Region Europe
- Region AAMEO
- Region J&K
- Region LATAM
- World

Note: Data is sensitive to changes in IQVIA data collection and reporting methodology. Numbers do 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)

- Insulin: 25%
- GLP-1: 11%
- Treatment naive: 5%
- Insulin and GLP-1: 5%
- Treatment naive: 5%
- OAD: 50%

Share of patients on OADs achieving HbA1c below 7% in major European countries

- HbA1c <7%: 57%
- HbA1c >7%: 43%

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

1 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
2 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
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

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

1 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

<table>
<thead>
<tr>
<th>DKK billion</th>
<th>Victoza®</th>
<th>Dulaglutide</th>
<th>Ozempic®</th>
<th>Exenatide</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 2019</td>
<td>10%</td>
<td>8%</td>
<td>12%</td>
<td>6%</td>
<td>12%</td>
</tr>
</tbody>
</table>

CAGR value\(^1\): 40.2%

Key points on Victoza® and Ozempic® in the USA

- Victoza® and Ozempic® value market share within the GLP-1 segment is 45\(^2\)%
- 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\(^3\)
- Unrestricted access for Ozempic® for commercial and Medicare Part D combined around 85%

\(^1\) CAGR for 5-year period
\(^2\) Source: IQVIA NSP monthly, MAT, Feb 2019
\(^3\) 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

CAGR value\(^1\): 22.7%

IO GLP-1 market

<table>
<thead>
<tr>
<th>DKK billion</th>
<th>Feb 2014</th>
<th>Feb 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victoza®</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ozempic®</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dulaglutide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exenatide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLP-1 market value</td>
<td>8%</td>
<td>10%</td>
</tr>
</tbody>
</table>

GLP-1 value market share in IO

<table>
<thead>
<tr>
<th>GLP-1 value market share</th>
<th>Feb 2014</th>
<th>Feb 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victoza®</td>
<td>51%</td>
<td>39%</td>
</tr>
<tr>
<td>Ozempic®</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dulaglutide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exenatide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>8%</td>
<td>1%</td>
</tr>
</tbody>
</table>

\(^1\) CAGR for 5-year period
IO: International Operations
Source: IQVIA monthly MAT, Feb 2019 value figures

Source: IQVIA monthly MAT Feb, 2019 value figures

IO : International Operations
GLP-1 segment accounts for around 12% of total diabetes market value in Region Europe

**European GLP-1 market**

- **Victoza®**
- **Ozempic®**
- **dulaglutide**
- **exenatide**
- **other**
- **GLP-1 market value**

**GLP-1 value market share in Region Europe**

- **Victoza®**
- **Ozempic®**
- **dulaglutide**
- **exenatide**
- **other**
- **NN combined**

---

1 CAGR for 5-year period

Source: IQVIA monthly MAT, Feb 2019 value figures
GLP-1 segment accounts for 3% of total diabetes market value in Region AAMEO

<table>
<thead>
<tr>
<th>Region AAMEO GLP-1 market</th>
<th>GLP-1 value market share in Region AAMEO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAGR value</strong>¹: 24.9%</td>
<td><strong>Victoza® value market share</strong></td>
</tr>
<tr>
<td>DKK billion</td>
<td>GLP-1 market value</td>
</tr>
<tr>
<td></td>
<td>Share of total diabetes market</td>
</tr>
<tr>
<td></td>
<td><strong>Victoza®</strong></td>
</tr>
<tr>
<td></td>
<td><strong>dulaglutide</strong></td>
</tr>
<tr>
<td></td>
<td><strong>exenatide</strong></td>
</tr>
<tr>
<td></td>
<td><strong>lixisenatide</strong></td>
</tr>
</tbody>
</table>

¹ CAGR for 5-year period
AAMEO: Africa, Asia, the Middle East and Oceania
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

CAGR value\(^1\): 33.8%

Source: IQVIA monthly MAT, Feb 2019 value figures

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

\(^1\) CAGR for 5-year period

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**

- **DKK billion**
- **Share of total diabetes market**

<table>
<thead>
<tr>
<th>Month</th>
<th>Victoza®</th>
<th>dulaglutide</th>
<th>exenatide</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CAGR value¹: 33.8%**

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

- **GLP-1 value market share**

<table>
<thead>
<tr>
<th>Month</th>
<th>Victoza®</th>
<th>dulaglutide</th>
<th>exenatide</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2014</td>
<td>63%</td>
<td>32%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Feb 2019</td>
<td>63%</td>
<td>32%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

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

Source: IQVIA monthly MAT, Feb 2019 value figures
GLP-1 segment accounts for around 6% of the total diabetes market in Region Latin America

**Region Latin America GLP-1 market**

- **Victoza®**
- **dulaglutide**
- **exenatide**
- **GLP-1 market value**
- **other**

**Share of total diabetes market**

- DKK billion
- CAGR value\(^1\): 12.6%

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

- **Victoza®**
- **dulaglutide**
- **exenatide**
- **other**

**GLP-1 value market share**

- Feb 2014: 67%
- Feb 2019: 32%

\(^1\) CAGR for 5-year period

Source: IQVIA monthly MAT, Feb 2019 value figures
SUSTAIN trials with semaglutide

**SUSTAIN 1**:
- Baseline: 8.1%
- Change in HbA1c (%): -1.6* (semaglutide 1 mg), -1.3* (semaglutide 0.5 mg), -1.5* (placebo)

**SUSTAIN 2**:
- Baseline: 8.1%
- Change in HbA1c (%): -1.6* (semaglutide 1 mg), -1.3* (semaglutide 0.5 mg), -1.5* (placebo)

**SUSTAIN 3**:
- Baseline: 8.3%
- Change in HbA1c (%): -1.5* (semaglutide 1 mg), -1.2* (semaglutide 0.5 mg), -1.8* (placebo)

**SUSTAIN 4**:
- Baseline: 8.2%
- Change in HbA1c (%): -1.6* (semaglutide 1 mg), -1.2* (semaglutide 0.5 mg), -1.3* (placebo)

**SUSTAIN 5**:
- Baseline: 8.4%
- Change in HbA1c (%): -1.4* (semaglutide 1 mg), -1.1* (semaglutide 0.5 mg), -1.5* (placebo)

**SUSTAIN 6**:
- Baseline: 8.7%
- Change in HbA1c (%): -1.4* (semaglutide 1 mg), -1.1* (semaglutide 0.5 mg), -1.3* (placebo)

**SUSTAIN 7**:
- Baseline: 8.2%
- Change in HbA1c (%): -1.5* (semaglutide 1 mg), -1.3* (semaglutide 0.5 mg), -1.5* (placebo)

**Change in weight (kg)**

<table>
<thead>
<tr>
<th><strong>SEMAGLUTIDE</strong></th>
<th><strong>SITAGLIPTIN 100 mg</strong></th>
<th><strong>EXENATIDE ER</strong></th>
<th><strong>GLARGINE U100</strong></th>
<th><strong>DULAGLUTIDE 1.5 mg</strong></th>
<th><strong>DULAGLUTIDE 0.75 mg</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>92 kg</td>
<td>89 kg</td>
<td>96 kg</td>
<td>93 kg</td>
<td>92 kg</td>
</tr>
<tr>
<td>Change in weight</td>
<td>-4.5*</td>
<td>-5.6*</td>
<td>-6.1*</td>
<td>-5.2*</td>
<td>-6.4*</td>
</tr>
</tbody>
</table>

* 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 glargine 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

<table>
<thead>
<tr>
<th>PIONEER</th>
<th>Change in HbA1c (%)</th>
<th>Change in weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.0%</td>
<td>88 kg</td>
</tr>
<tr>
<td>2</td>
<td>8.1%</td>
<td>92 kg</td>
</tr>
<tr>
<td>3</td>
<td>8.3%</td>
<td>91 kg</td>
</tr>
<tr>
<td>4</td>
<td>8.0%</td>
<td>94 kg</td>
</tr>
<tr>
<td>5</td>
<td>8.0%</td>
<td>91 kg</td>
</tr>
<tr>
<td>6</td>
<td>8.3%</td>
<td>89 kg</td>
</tr>
<tr>
<td>7</td>
<td>8.2%</td>
<td>86 kg</td>
</tr>
</tbody>
</table>

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
2. Obesity treatment
3. Saxenda®
4. Obesity pipeline
5. STEP and SELECT
Obesity is a chronic disease that requires treatment

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

- Weight gain
  - Diet and exercise to reduce weight
    - New set-point
    - Set-point

- Increased appetite and slowing of metabolism
  - Hormone levels signal change to keep weight up
    - New set-point

The body fights weight loss for people with obesity

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

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

Key barriers to effective obesity management

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

- **Few prescribers engaged**
  - Physicians not equipped to engage in and treat obesity

- **Limited patient access**
  - Funding and reimbursement a hurdle for physicians and patients

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

1 Attempt to manage weight through lifestyle modification or surgery
2 2% of people with obesity are estimated to be treated with anti-obesity medication

Source: IQVIA MIDAS 2017
Healthcare cost associated with obesity expected to increase

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>USD ~0.8 trillion</td>
</tr>
<tr>
<td>2020</td>
<td>USD ~1.0 trillion</td>
</tr>
<tr>
<td>2025</td>
<td>USD ~1.2 trillion</td>
</tr>
</tbody>
</table>

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: World Obesity Federation, 2017

Source: WHO, Oct 2017; World Obesity Federation, 2017
Saxenda® now launched in 41 countries

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

- Mexico
- Germany
- Australia
- USA
- Canada
- Italy
- Brazil
- Denmark
- Belgium
- UAE
- Spain

Reported Saxenda® sales for first quarter of 2019

- DKK billion
- Sales growth at CER

- 51% Operations
- 13% Europe
- 146% NAO Regions
- 149% AAMEO LATAM
- 90% Europe
- 74% J&K
- NA*

Source: IQVIA MAT, Feb 2019
Note: The market for anti-obesity medication varies significantly in size between countries

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**
  - Acute weight loss focus with Saxenda® stay-time ~5 months
  - Less than 3,000 physicians write ≥10 branded AOM prescriptions per month
  - Only 2 in 5 of ~95 million adults with obesity have access to reimbursed medication

- **Key initiatives**
  - Advocate for chronic treatment through partnerships
  - Continued Obesity Care Education, through the Obesity Educators physician engagement
  - Obtain Medicare coverage through support of “Treat and Reduce Obesity Act”

### Graphs

**TRx SU market share**

- Saxenda®: 83%
- Other branded AOM: 13%
- Generic AOM: 4%

**mUSD/value market share**

- Saxenda®: 6%
- Other branded AOM: 36%
- Generic AOM: 58%

---

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

- Weight reduction by reducing food intake
- Weight reduction by increasing energy expenditure
- Appetite reduction
- Impact on metabolic changes to increase lipid and glucose metabolism

Novo Nordisk obesity products and pipeline

<table>
<thead>
<tr>
<th>Projects</th>
<th>2019 expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saxenda®</td>
<td>Launched</td>
</tr>
<tr>
<td>semaglutide – QW GLP-1</td>
<td>Phase 3 ongoing</td>
</tr>
<tr>
<td>AM833 – amylin analogue</td>
<td>Phase 2 initiated</td>
</tr>
<tr>
<td>PYY1562 – PYY analogue</td>
<td>Phase 1 results</td>
</tr>
<tr>
<td>NN9277 – GG-co-agonist</td>
<td>Phase 1 ongoing</td>
</tr>
<tr>
<td>NN9423 – Tri-agonist 1706</td>
<td>Phase 1 results</td>
</tr>
<tr>
<td>PYY1875 – PYY analogue</td>
<td>Phase 1 ongoing</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Change in body weight (%)</th>
<th>sema 0.05 mg</th>
<th>sema 0.1 mg</th>
<th>sema 0.2 mg</th>
<th>sema 0.3 mg</th>
<th>sema 0.4 mg</th>
<th>lira 3.0 mg</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Year</th>
<th>STEP 1: Weight loss</th>
<th>STEP 2: T2D non-insulin patients</th>
<th>STEP 3: Maximising weight loss</th>
<th>STEP 4: Maintained weight loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>1,950 patients, 68 weeks</td>
<td>1,200 patients, 68 weeks</td>
<td>600 patients, 68 weeks</td>
<td>900 patients, 68 weeks</td>
</tr>
</tbody>
</table>

Cardiovascular outcomes study, SELECT, initiated for semaglutide in obesity

- Semaglutide 2.4 mg sc QW
- Placebo
- ~17,500 people with obesity

Expected phase 3a programme completion: 2020

Completion: Pre-defined number of events

---

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

1 Inclusion criteria: Male or female > 45 years, BMI >27 kg/m², myocardial infarction or stroke >60 days, HbA₁c <6.5%
QW: Once-weekly; sc: Subcutaneous; BMI: Body mass index
Biopharm and other chronic areas

1. Biopharm at a glance 94
2. Haemophilia – a rare disease 95
3. Haemophilia market 96
4. NovoSeven® 97
5. NovoEight® 98
6. Refixia®/Rebinyn® 99
7. Esperoct® (N8-GP) 100
8. Growth hormone market 101
9. Clinical trial for somapacitan 102
10. Other chronic disease 103
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

<table>
<thead>
<tr>
<th>Pursue leadership in HAEMOPHILIA</th>
<th>Pursue subcutaneous bypassing and mimicking agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthen leadership in GROWTH DISORDERS</td>
<td>Bring long-acting growth hormone somapacitan to market and expand indications</td>
</tr>
<tr>
<td>Pursue bolt-on opportunities</td>
<td>Identify bolt-on acquisition or in-licensing opportunities in adjacent disease area</td>
</tr>
</tbody>
</table>

**Novo Nordisk Biopharm portfolio**

<table>
<thead>
<tr>
<th>Research/preclinical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Concizumab¹</td>
<td>Somapacitan GHD and SGA²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concizumab¹</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>NovoEight®</td>
</tr>
<tr>
<td>NovoSeven®</td>
</tr>
<tr>
<td>Norditropin®</td>
</tr>
</tbody>
</table>

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

Note: NovoThirteen® and Refixia® are the global brand names where TRETTEN® and Rebinyn® 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

- **Haemophilia A**
  - App. 350,000 patients
- **Haemophilia B**
  - App. 70,000 patients
- **Inhibitor segment**
  - App. 3,500-4,000 patients

**Low diagnosis and treatment rates within haemophilia**

- **People with haemophilia**
  - Diagnosed: 45%
  - Treated: 15%
  - Prophylactic: 6%
  - Pristine joints: 3%


Note: The inhibitor segment represents people with haemophilia and high titre inhibitors to their normal replacement treatment.

Global haemophilia market is growing by high-single digit

Sales of recombinant haemophilia products

- NovoSeven®
- Coagil VII®
- Obizur®
- Feiba®
- Hemlibra®
- Advate®/Adynovate®
- Kogenate®/Kovaltry®/Jivi®
- Xyntha®/ReFacto®
- Eloctate®/Elocta®
- Helixate®/Afstyla®
- NovoEight®
- Idelvion®
- Rixubis®
- Alprolix®
- Benefix®

Strategic positioning of Novo Nordisk’s haemophilia portfolio

<table>
<thead>
<tr>
<th>Novo Nordisk compound</th>
<th>Status</th>
<th>Strategic position</th>
</tr>
</thead>
<tbody>
<tr>
<td>NovoSeven®</td>
<td>Launched</td>
<td>Maintain market leadership</td>
</tr>
<tr>
<td>NovoEight®</td>
<td>Launched</td>
<td>Establish presence in a competitive market place</td>
</tr>
<tr>
<td>Esperoct® (N8-GP)</td>
<td>Approved/Submitted¹</td>
<td>Contribute to market conversion</td>
</tr>
<tr>
<td>Refixia®/Rebinyn®</td>
<td>Launched²</td>
<td>Contribute to new treatment paradigm</td>
</tr>
<tr>
<td>NovoThirteen®</td>
<td>Launched</td>
<td>Launch first recombinant product</td>
</tr>
</tbody>
</table>

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

1 Approved in the USA; positive opinion adopted by the EU CHMP and submitted in Japan
2 Refixia® is the global brand name and Rebinyn® 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**

- **CHwI PPx (A&B)**
- **CHwI on demand (A&B)**
- **CHwI surgery (A&B)**
- **Other indications**

- ~25%
- ~15%
- ~10%
- ~50%

Haemophilia A PPx and on demand sales exposed to competitive entry

**NovoSeven® sales of DKK 7.9 billion**

---

1. Based on internal Novo Nordisk estimate
2. Other indications include areas like acquired haemophilia, Glanzmann's thrombastenia and congenital FVII deficiency
3. Reported sales for full year 2018

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

**Opportunities and challenges for NovoSeven® franchise**

**Challenge**

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

**Opportunities**

- Maintain position as preferred agent for all bleeds including breakthrough bleeds for patients on prophylactic treatment
- Improving diagnosis and treatment of select indications outside of haemophilia A with inhibitors with special focus on acquired haemophilia
- Drive development of NovoSeven® franchise in underdeveloped Chinese market following inclusion on National Drug Reimbursement List
Strong commercial execution and temperature stability key for NovoEight®, which has been launched in 46 countries

NovoEight® global roll-out continues

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of launch countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>8</td>
</tr>
<tr>
<td>2015</td>
<td>16</td>
</tr>
<tr>
<td>2016</td>
<td>25</td>
</tr>
<tr>
<td>2017</td>
<td>28</td>
</tr>
<tr>
<td>2018</td>
<td>35</td>
</tr>
<tr>
<td>2019</td>
<td>46</td>
</tr>
</tbody>
</table>

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

Competitive positioning for NovoEight®

- Temperature stability at high room temperature and best-in-class portability
- Uptake driven by Novo Nordisk’s strong customer focus and company recognition within the haemophilia community
- Continued volume growth especially in less mature markets with tender opportunities, despite increasing penetration of long-acting FVIII products
Strong growth in the long-acting haemophilia B market and Refixia® has now been launched in 14 countries

- Refixia® 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

1 CAGR for 6-year period
FIX: Coagulation factor IX
Source: Company reports (Benefix® and Alprolix) and EvaluatePharma (Rixubis® and Idelvion®) as sales are not reported separately

CAGR: 12.9%¹

FDA: the US Food and Drug Administration; EMA: European Medicines Agency
rFIX: Recombinant coagulation factor IX
Note: The brand name for Refixia® in the USA is Rebinyn®
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**

<table>
<thead>
<tr>
<th>Time (h)</th>
<th>FVIII activity (IU/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.2</td>
</tr>
<tr>
<td>24</td>
<td>1.0</td>
</tr>
<tr>
<td>48</td>
<td>0.8</td>
</tr>
<tr>
<td>72</td>
<td>0.6</td>
</tr>
<tr>
<td>96</td>
<td>0.4</td>
</tr>
<tr>
<td>120</td>
<td>0.2</td>
</tr>
<tr>
<td>144</td>
<td>0.0</td>
</tr>
<tr>
<td>168</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Dose 50 IU/kg (n=8)
One stage clot assay

**Pathfinder 2 headline results (phase 3)**

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

**Pathfinder 2 extension trial results**

- 55 patients with ≤2 bleeds during 6 months in the main phase were randomised 2:1 to either once-weekly (75 IU/kg) or every fourth day (50 IU/kg) treatment for 180 days
- 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

Novo Nordisk maintains leadership within growth disorder

**Development in global growth disorder market**

- CAGR volume\(^1\): 16.6%
- CAGR value DKK\(^1\): 12.9%

**Growth disorder volume market share**

- **Novo Nordisk**
- **Pfizer**
- **Sandoz**
- **Eli Lilly**
- **Merck Kgaa**
- **Takeda**
- **Other\(^1\)**

\(^1\) CAGR for 5-year period

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

Source: IQVIA monthly MAT Feb, 2019 volume figures

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

\(^1\) '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**

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

IGF-1: Insulin-like growth factor 1; AGHD: Adult growth hormone deficiency

Source: Novo Nordisk data on file; REAL 1, NN8640-4054

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

- 70% of people with diabetes die from atherosclerotic CVD
- 40% of people hospitalised for heart failure have diabetes
- 80% of people with NASH live with obesity and 35% have diabetes
- 40% of people with diabetes have diabetic nephropathy and 50% have obesity

New therapeutic areas represent patient populations with high unmet medical needs

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Estimated patients</th>
<th>Number of related deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVD</td>
<td>~420 million</td>
<td>~20 million annually</td>
</tr>
<tr>
<td>NASH</td>
<td>~15-40 million¹</td>
<td>~20%²</td>
</tr>
<tr>
<td>CKD</td>
<td>~200 million</td>
<td>~20%</td>
</tr>
</tbody>
</table>

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

¹ Internal forecast comprising the USA, Europe and Japan
² Diagnosis rate is considered a major uncertainty to the forecast

Source: Abera SF et al. Global, Regional, and National Burden of Cardiovascular Diseases for 10 Causes, 1990 to 2015, 2017; Heart Disease and Stroke Statistics, American Heart Association, 2017; Williams CD et al. Prevalence of nonalcoholic fatty liver disease and nonalcoholic steatohepatitis among a largely middle-aged population utilizing ultrasound and liver biopsy, 2011; Addressing the global burden of chronic kidney disease through clinical and translational research, 2014
Inclusion criteria: Histological confirmation of NASH, BMI 25–45 kg/m², NASH fibrosis stage 2 or 3, Histological NAFLD Activity Score ≥ 4

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

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

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

372 patients¹

- semaglutide 0.4 mg sc QD
- semaglutide 0.2 mg sc QD
- semaglutide 0.1 mg sc QD
- Placebo 0.1, 0.2 or 0.4 mg

Liver biopsy (recent or new) 72 weeks Liver biopsy

Next steps:
- Phase 2 trial expected to complete 2020

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

1. Sales growth
2. Operating Profit growth
3. Cost distribution
4. COGS & CAPEX as percent of sales
5. Long-term financial targets
6. Cash return to shareholders
7. Currency impact
8. Ownership structure
Solid sales growth driven by diabetes and obesity

Reported annual sales 2014-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Diabetes and obesity</th>
<th>Biopharmaceuticals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>21%</td>
<td>79%</td>
</tr>
<tr>
<td>2015</td>
<td>21%</td>
<td>79%</td>
</tr>
<tr>
<td>2016</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>2017</td>
<td>17%</td>
<td>83%</td>
</tr>
<tr>
<td>2018</td>
<td>16%</td>
<td>84%</td>
</tr>
</tbody>
</table>

CAGR\(^1\) 4.7%

Reported annual sales split by region

<table>
<thead>
<tr>
<th>Region</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region China</td>
<td>21%</td>
<td>21%</td>
<td>20%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>Region Europe</td>
<td>9%</td>
<td>11%</td>
<td>23%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Region AAMEO</td>
<td>6%</td>
<td>11%</td>
<td>19%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Region J&amp;K</td>
<td>3%</td>
<td>10%</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
</tr>
</tbody>
</table>

1 CAGR for 5-year period

AAMEO: Africa, Asia, Middle East & Oceania; J&K: Japan and Korea; LATAM: Latin America
Solid operating profit growth driven by diabetes

### Operating profit

- **2014**: 10%, 13%
- **2015**: 35%, 13%
- **2016**: 4%, 6%
- **2017**: 1%, 5%
- **2018**: -4%, 3%

- **DKK billion**: 30, 35, 40, 45, 50
- **Operating profit**: Dark blue
- **Operating profit as % of sales**: Cyan
- **Reported operating profit growth**: Light blue
- **Operating profit growth at CER**: Orange

### Operating profit split per franchise

- **2014**:
  - **Diabetes and obesity**: 74%
  - **Biopharm**: 26%
- **2018**:
  - **Diabetes and obesity**: 80%
  - **Biopharm**: 20%

---

*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

- Sales: -16%
- COGS: -28%
- S&D: -13%
- R&D: -3%
- Admin: +1%
- OOI: 40%

Biopharmaceuticals P&L – full year 2018

- Sales: -16%
- COGS: -17%
- S&D: -14%
- R&D: -4%
- Admin: +3%
- OOI: 52%

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

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

**Annual cash return to shareholders**

<table>
<thead>
<tr>
<th>DKK billion</th>
<th>Share repurchase</th>
<th>Interim dividend</th>
<th>Dividend</th>
<th>Free cash flow</th>
<th>Free cash flow guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>13</td>
<td>8</td>
<td>17</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>2016</td>
<td>17</td>
<td>8</td>
<td>17</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>2017</td>
<td>17</td>
<td>7</td>
<td>12</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>2018</td>
<td>15</td>
<td>7</td>
<td>12</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>2019E*</td>
<td>15</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

**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.
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.

**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.

<table>
<thead>
<tr>
<th>Key currencies</th>
<th>Avg. FX rate 2017</th>
<th>Avg. FX rate 2018</th>
<th>%-change</th>
<th>Yearly impact of 5% change (mDKK)</th>
<th>Estimated impact from key currencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>660</td>
<td>632</td>
<td>-4%</td>
<td>1,900</td>
<td>-1,610</td>
</tr>
<tr>
<td>CNY</td>
<td>98</td>
<td>95</td>
<td>-2%</td>
<td>325</td>
<td>-142</td>
</tr>
<tr>
<td>JPY</td>
<td>5.9</td>
<td>5.7</td>
<td>-3%</td>
<td>170</td>
<td>-93</td>
</tr>
<tr>
<td>GBP</td>
<td>849</td>
<td>842</td>
<td>-1%</td>
<td>90</td>
<td>-13</td>
</tr>
<tr>
<td>CAD</td>
<td>508</td>
<td>488</td>
<td>-4%</td>
<td>80</td>
<td>-65</td>
</tr>
</tbody>
</table>

**Total estimated currency impact from key currencies in 2018** -1,924

<table>
<thead>
<tr>
<th>Key currencies</th>
<th>Avg. FX rate 2017</th>
<th>Avg. FX rate 2018</th>
<th>%-change</th>
<th>Yearly impact of 5% change (mDKK)</th>
<th>Estimated impact from key currencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARS</td>
<td>0.4</td>
<td>0.2</td>
<td>-40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRY</td>
<td>181</td>
<td>134</td>
<td>-26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INR</td>
<td>10.1</td>
<td>9.2</td>
<td>-9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUB</td>
<td>11.3</td>
<td>10.1</td>
<td>-11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRL</td>
<td>207</td>
<td>174</td>
<td>-16%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total currency impact from other currencies in 2018 (residual)** -1,173

**Total currency impact in 2018** -3,098

---

1 Yearly impact on operating profit for next 12 months. Estimates reflected in Annual Report 2018; 2 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

<table>
<thead>
<tr>
<th>Hedged Currencies</th>
<th>Q1 2018 avg.</th>
<th>Q1 2019 avg.</th>
<th>Spot rate</th>
<th>Impact of a 5% move</th>
<th>Hedging (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD²</td>
<td>606</td>
<td>657</td>
<td>665</td>
<td>2,100</td>
<td>10</td>
</tr>
<tr>
<td>CNY²</td>
<td>95</td>
<td>97</td>
<td>99</td>
<td>375</td>
<td>6²</td>
</tr>
<tr>
<td>JPY²</td>
<td>5.6</td>
<td>6.0</td>
<td>6.0</td>
<td>160</td>
<td>12</td>
</tr>
<tr>
<td>GBP²</td>
<td>843</td>
<td>856</td>
<td>865</td>
<td>85</td>
<td>10</td>
</tr>
<tr>
<td>CAD²</td>
<td>480</td>
<td>494</td>
<td>495</td>
<td>100</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hedged Currencies</th>
<th>Q1 2018 avg.</th>
<th>Q1 2019 avg.</th>
<th>Spot rate²</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARS²</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>TRY²</td>
<td>159</td>
<td>122</td>
<td>112</td>
</tr>
<tr>
<td>INR²</td>
<td>9.4</td>
<td>9.3</td>
<td>9.6</td>
</tr>
<tr>
<td>RUB²</td>
<td>10.7</td>
<td>10.0</td>
<td>10.3</td>
</tr>
<tr>
<td>BRL²</td>
<td>187</td>
<td>174</td>
<td>169</td>
</tr>
</tbody>
</table>

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

¹ Year-to-date realised data and remainder expected flat currency development based on the spot rate as of 30 April 2019.
Stable ownership structure
- secured through A and B-share structure

**Share structure**

- **Novo Nordisk Foundation**
  - 76.3% of votes
  - 28.6% of capital

- **Novo Holdings A/S**
  - 23.7% of votes
  - 71.4% of capital

- **Institutional and private investors**

**Novo Nordisk A/S**

- A shares: 537m shares
- B shares: 1,863m shares

**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

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

1. Sustainable business 118
2. Novo Nordisk Way and Triple Bottom Line 119
3. Changing Diabetes® 120
4. Circular for Zero 123
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

- Financially responsible
- Socially responsible
- Environmentally responsible

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

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

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

2/3 of people living with diabetes live in urban areas
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** people treated at USD 0.12 per day in average

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

1 This reflects the people covered by the 'Access to insulin commitment'.

Note: changing diabetes®
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**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>~42,700 FTEs</td>
<td></td>
</tr>
<tr>
<td>91% employee engagement</td>
<td></td>
</tr>
<tr>
<td>score</td>
<td></td>
</tr>
<tr>
<td>11.7% employee turnover</td>
<td></td>
</tr>
<tr>
<td>2.4 accidents with absence per million working hours</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>All managers</th>
<th>Management appointments(^1)</th>
<th>Sr. Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>60%</td>
<td>58%</td>
<td>89%</td>
</tr>
<tr>
<td>2018</td>
<td>60%</td>
<td>62%</td>
<td>87%</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>40%</td>
<td>42%</td>
<td>11%</td>
</tr>
<tr>
<td>2018</td>
<td>40%</td>
<td>38%</td>
<td>13%</td>
</tr>
</tbody>
</table>

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

FTE: Full time employee

\(^1\) 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 CO₂ 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

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