CAPITAL MARKETS DAY 2019
Consolidated presentation
PETER ROT

Peter lives in Germany and has type 2 diabetes.
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.

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Important drug information

- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only
Driving change to defeat diabetes and other serious chronic diseases
NOVO NORDISK WAY

DRIVING CHANGE TO DEFEAT DIABETES AND OTHER SERIOUS CHRONIC DISEASES

CORE CAPABILITIES

DIABETES CARE
STRENGTHEN LEADERSHIP BY OFFERING INNOVATIVE MEDICINES AND DRIVING PATIENT OUTCOMES

OBESITY CARE
STRENGTHEN TREATMENT OPTIONS THROUGH MARKET DEVELOPMENT AND BY OFFERING INNOVATIVE MEDICINES AND DRIVING PATIENT OUTCOMES

SECURE A LEADING POSITION BY LEVERAGING FULL PORTFOLIO AND EXPANDING INTO ADJACENT AREAS

BIOPHARM

ESTABLISH PRESENCE BY BUILDING COMPETITIVE PIPELINE AND SCIENTIFIC LEADERSHIP

OTHER SERIOUS CHRONIC DISEASES
Sustained growth opportunities – strategic aspirations for 2025

- Purpose and sustainability
- Innovation and therapeutic focus
- Commercial execution
- Financial outlook
Novo Nordisk has come a long way

STRENGTHEN COMMERCIAL EXECUTION

INCREASE INNOVATION BAR

EVOLVE OUR CULTURE
## Today’s agenda

<table>
<thead>
<tr>
<th>Timing</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00 – 09.15</td>
<td>Corporate strategy</td>
</tr>
<tr>
<td>09.15 – 10.15</td>
<td>Diabetes</td>
</tr>
<tr>
<td>10.15 – 10.30</td>
<td>Corporate strategy &amp; Diabetes Q&amp;A</td>
</tr>
<tr>
<td>10.30 – 10.45</td>
<td>Break</td>
</tr>
<tr>
<td>10.45 – 11.20</td>
<td>Obesity</td>
</tr>
<tr>
<td>11.20 – 11.50</td>
<td>Biopharm</td>
</tr>
<tr>
<td>11.50 – 12.00</td>
<td>Obesity &amp; Biopharm Q&amp;A</td>
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<tr>
<td>12.00 – 13.00</td>
<td>Lunch</td>
</tr>
<tr>
<td>13.00 – 13.25</td>
<td>North America Operations</td>
</tr>
<tr>
<td>13.35 – 13.45</td>
<td>NAO and IO Q&amp;A</td>
</tr>
<tr>
<td>13.45 – 14.30</td>
<td>IO regional break-out, part I</td>
</tr>
<tr>
<td>14.30 – 15.15</td>
<td>IO regional break-out, part II</td>
</tr>
<tr>
<td>15.15 – 15.30</td>
<td>Break</td>
</tr>
<tr>
<td>15.30 – 16.00</td>
<td>Emerging therapies</td>
</tr>
<tr>
<td>16.00 – 16.30</td>
<td>Product Supply and Financials</td>
</tr>
<tr>
<td>16.30 – 17.00</td>
<td>Strategic priorities</td>
</tr>
<tr>
<td>17.00 – 18.00</td>
<td>Networking</td>
</tr>
</tbody>
</table>

### Timing Topic Timing Topic
DIABETES CARE

STRENGTHEN LEADERSHIP

BY OFFERING INNOVATIVE MEDICINES AND DRIVING PATIENT OUTCOMES
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Note: All notes, sources and abbreviations for this presentation are found on the last page.
People with diabetes have increased mortality risk with 8 years shorter life expectancy, highlighting the importance of innovation.

Diabetes is associated with shorter life expectancy and lower quality of life

- **Life expectancy** 8 years shorter\(^1\)
- Driven by 200% increased risk of all cause mortality\(^1\)

CVD

- 70% of people with diabetes die from atherosclerotic CVD\(^2\)
- 150% increase in risk of stroke\(^3\)

Organs

- Higher likelihood of neuropathy, retinopathy, limb amputation, cancer and cognitive dysfunction\(^4\)

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The unmet need remains large within diabetes

<table>
<thead>
<tr>
<th>Model</th>
<th>Untreated (million)</th>
<th>Treated with competitors’ products (million)</th>
<th>Treated with Novo Nordisk’ products (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetic population(^5)</td>
<td>463</td>
<td>101</td>
<td>29</td>
</tr>
<tr>
<td>Other OAD</td>
<td>183</td>
<td>56</td>
<td>24</td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Branded OAD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLP-1</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
Diabetes volume growth remains solid with 4% growth in a large USD 48 billion diabetes market

The number of treated patients\(^1\) is expected to grow by 4% annually towards 2025

The diabetes realised value\(^2\) is expected to grow by 4% annually towards 2025

**Key trends in diabetes**

- Innovation focused on oral GLP-1 and combinations
- Biosimilar competition and loss of exclusivity
- Diabetes technology with digital health
- Patients outcome beyond glucose control
- Evolving payer dynamics and market access hurdles
- Access and affordability of medicine

**ILLUSTRATIVE**

<table>
<thead>
<tr>
<th>2018</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>183 million</td>
<td></td>
</tr>
</tbody>
</table>

**ILLUSTRATIVE**

<table>
<thead>
<tr>
<th>2018</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD 48bn</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SGLT-2i</th>
<th>GLP-1</th>
<th>DPP-4i</th>
<th>Insulin</th>
<th>Other OAD</th>
</tr>
</thead>
</table>

\(^1\) CAGR: +4% 
\(^2\) CAGR: +3% 
CAGR: +4% excl. DPP-4i
Social responsibility is core to Novo Nordisk and initiatives focus on innovation, access and prevention

Develop new and innovative treatments until diabetes is defeated

Ensuring access by making Novo Nordisk medicines available and affordable

Support prevention by building capacity in health systems and societies
New environmental strategy aspiring to have zero environmental impact from operations and transportation by 2030

Circular supply
Novo Nordisk will collaborate proactively with suppliers to embed circular thinking for reduced environmental impact across Novo Nordisk value chain and switch towards circular sourcing and procurement

Circular company
Novo Nordisk will eliminate environmental footprint from Novo Nordisk operations and drive a circular transition across the company aspiring for zero environmental impact

Circular products
Novo Nordisk will upgrade existing and design new products based on circular principles and solve the end-of-life product waste challenge to close the resource loop
Novo Nordisk core capabilities provide a competitive advantage to continue to defeat diabetes

**Engineering, formulating, developing and delivering protein-based treatments**

**Today:** Oral solutions to differentiate from competition

**Tomorrow:** Expand oral platforms and transformational medicines via Novo Nordisk stem cell platform

**Efficient large-scale production of proteins**

**Today:** The world’s largest producer of insulin and GLP-1

**Tomorrow:** Expand capacity by completion of the US diabetes API facility and continued efficiency gains

**Global commercial reach and leader in chronic disease care**

**Today:** Global reach and Ozempic® was the fastest blockbuster in diabetes

**Tomorrow:** Continued rollout of injectable diabetes portfolio and launch of Rybelsus®

**Deep disease understanding**

**Today:** Provide value and outcomes beyond HbA1c for diabetes

**Tomorrow:** Normalise living with diabetes supported by digital solutions
Novo Nordisk continues to expand the digital health offerings through partnerships and connected devices

**New partnerships and connected devices to expand the digital health offerings**

- Multiple non-exclusive partnerships with digital health companies
- Novo Nordisk expects to offer both a connected durable device and a smart add-on device for prefilled pens

**Reliable data leading to better doctor-patient conversations and treatment results**

- 43% fewer missed meal-time insulin injections
- 28% increase in dose of meal-time insulin
- 2 additional hours in good glucose control per person per day

**Dosing data**

FGM/CGM glucose data

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FGM: flash glucose monitor, CGM: continuous glucose monitor, HCP: health care professional
Novo Nordisk has a broad portfolio of products to target all segments in diabetes

Novo Nordisk has the ambition to be present and competitive in all diabetes segments

- Treated diabetes patients: 183 million
- Diabetes market value: USD 48 billion

Novo Nordisk is well positioned across the diabetes segments with the only oral GLP-1 and an innovative injectable product portfolio

- When metformin is not enough
- When it's time for the first injection
- When it's time for insulin
  - Once-daily optimisation
  - Meal-time insulin control

- Tablets
- Inj. GLP-1
- Insulin

- Tablets: 25%
- Inj. GLP-1: 44%
- Insulin: 17%

- Tablets: 68%
- Inj. GLP-1: 40%
- Insulin: 7%
Novo Nordisk has a broad portfolio of products to target all segments in diabetes

Novo Nordisk has the ambition to be present and competitive in all diabetes segments

- Treated diabetes patients: 183 million
- Diabetes market value: USD 48 billion

Novo Nordisk is well positioned across the diabetes segments with the only oral GLP-1 and an innovative injectable product portfolio

- Gain market share and have the preferred branded tablet
  - Rybelsus®

- Expand leadership and accelerate market growth
  - Ozempic®

- Gain market share in basal insulin
  - Tresiba®
  - Xultophy

- Sustain insulin leadership in short-acting and premix
  - Fiasp®
  - Ryzodeg®
Novo Nordisk expects to gain market share in a growing USD 48 billion diabetes market.

Novo Nordisk has accelerated growth momentum and is well positioned to continue to take diabetes market share.

- Increase market share by 2025 to more than 1/3 in a growing USD 48 billion diabetes market.
- Drive growth via a sustainable business approach and an innovative injectable product portfolio.
- Accelerate growth further with Rybelsus®, the first and only oral GLP-1.
Insulin sales remain important with 50% share of revenue but with less dependence on the US insulin sales.

- Insulin sales have declined from 61% to 50% of total sales.
- Insulin sales have increased by DKK ~5 billion to DKK ~60 billion between 2014 and 2018.
- Global leadership insulin leadership has increased from 40% to 44% value market share.

**Graphs:**
- 2014 sales split: 39% IO insulin, 34% NAO insulin, 27% Other products.
- 2019 sales split: 50% IO insulin, 31% NAO insulin, 19% Other products.
Solid insulin sales growth in IO is driven by innovation and volume, partly offset by lower realised prices in NAO.

**IO insulin sales increased by 5% in CER driven by innovation and volume**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Volume</th>
<th>Price</th>
<th>Innovation</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>28</td>
<td>48%</td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>2018</td>
<td>34</td>
<td></td>
<td></td>
<td>48%</td>
<td>34</td>
</tr>
</tbody>
</table>

**NAO insulin sales decreased by -1% in CER due to lower prices offset by innovation**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Volume</th>
<th>Price</th>
<th>Innovation</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>27</td>
<td>36%</td>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>2018</td>
<td>26</td>
<td></td>
<td></td>
<td>43%</td>
<td>26</td>
</tr>
</tbody>
</table>
Novo Nordisk insulin volume growth remains stable at around 3% with growth driven by new-generation insulin.

Novo Nordisk has grown on par with the market, but with growth momentum increasing during the last year.

Novo Nordisk volume has increased by 3% with new-generation insulin driving 76% share of growth.

CAGR: +3%

Share of volume growth

- 2014: 71% New-generation insulin, 28% Modern insulin, 1% Human insulin
- 2018: 68% New-generation insulin, 22% Modern insulin, 10% Human insulin

Share of growth new-generation insulin:
- 2018: 76%

tMU: Thousand mega units

NN insulin share of growth  
NN insulin growth (right axis)  
NN market share  
Insulin market growth (right axis)
Novo Nordisk focuses on addressing unmet need by ensuring both affordable and innovative insulin are available to the patients.

<table>
<thead>
<tr>
<th>Insulin Type</th>
<th>Average price per day¹ (DKK)</th>
<th>Millions of patients</th>
<th>Market growth</th>
<th>Market share</th>
<th>Δ MS 12m</th>
<th># of insulin companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human insulin</td>
<td>2</td>
<td>11</td>
<td>-0.7%</td>
<td>49%</td>
<td>-0.1%</td>
<td>40</td>
</tr>
<tr>
<td>Modern insulin</td>
<td>8</td>
<td>15</td>
<td>-0.4%</td>
<td>44%</td>
<td>-0.7%</td>
<td>5</td>
</tr>
<tr>
<td>New-generation insulin</td>
<td>18</td>
<td>2</td>
<td>+35%</td>
<td>53%</td>
<td>+5.0%</td>
<td>2</td>
</tr>
</tbody>
</table>

Novo Nordisk insulin sales growth is driven by International Operations²

Sales development

- Total market
- Novo Nordisk total

²CAPITAL MARKETS DAY 2019 SLIDE 23
The coverage of new-generation insulin has significantly improved, which supports the ambition to triple the volume.

The coverage of the NGI portfolio has increased during the last years:

- **Tresiba**
  - Coverage 2017: 66%
  - Additional coverage from 2018 to 2020: 23%
  - Total: 89%
  - Opportunities: NAO, Europe, China

- **Xultophy**
  - Coverage 2017: 38%
  - Additional coverage from 2018 to 2020: 31%
  - Total: 69%
  - Opportunities: Europe, J&K, AAMEO

- **Ryzodeg**
  - Coverage 2017: 18%
  - Additional coverage from 2018 to 2020: 24%
  - Total: 42%
  - Opportunities: AAMEO, J&K, China

- **Fiasp**
  - Coverage 2017: 54%
  - Additional coverage from 2018 to 2020: 69%
  - Total: 93%
  - Opportunities: Europe, NAO

NGI portfolio expected to continue to increase volume:

- **Share of volume growth**
  - NAO: 7%
  - IO: 93%

- **3 x NGI MU volume**

Coverage 2017 and additional coverage from 2018 to 2020 are indicated in the chart.
Novo Nordisk innovation targets outcomes beyond HbA$_{1c}$, supporting the aspiration for normalising life with diabetes.

The unmet medical need is large with high risk of developing diabetes-related comorbidities:

- Do not reach HbA$_{1c}$ targets$^1$: $\sim50\%$
- Die from ASCVD$^2$: $\sim70\%$
- Develop CKD$^3$: $\sim40\%$
- Develop retinopathy$^3$: $\sim30\%$

The R&D strategy focuses on further raising the diabetes innovation bar:

- The focus in diabetes is on driving outcomes beyond HbA$_{1c}$, targeting diabetes-related comorbidities.
- The aspiration is for normalising life with diabetes.

ASCVD: Atherosclerotic cardiovascular disease.
Novo Nordisk continues to pursue innovation of insulin with a higher innovation bar to address the current unmet need.

96 years of insulin innovation

- Once-weekly
- Long-acting
- Insulin analogue
- NPH
- Powder
- Glucose-sensitive Insulin
- Curative treatment
- Stem cell to beta cell

Pipeline overview

- **Anti-IL-21 + lira**
  - Phase 2
- **LAI287**
  - Phase 2
- **LAIsema**
  - Phase 1
- **Insulin 965**
  - Phase 1
- **Glucose-sensitive insulin**
  - Pre-clinical
- **Stem cell to beta cell**
  - Pre-clinical

**Maturation of innovation**

- **1923**
- **Today**

**2018** | **2019** | **2020** | **2021**
LAI287 and insulin 965 are two new basal insulin with raised innovation bar.

Steady state pharmacodynamic profile of LAI287 is suitable for once-weekly dosing\(^1\)

- **Strong albumin binding & reduced degradation**
- **Prolonged circulation**

**Expected phase 2 results first half 2020**

**Insulin 965 has entered phase 1**

- Blood glucose lowering on par with Tresiba®
- Microvascular benefits
- Macrovascular benefits
- Metabolic benefits

**Expected phase 1 results first half 2020**

- Once-daily dosing

**Note:**
- LAI: Long-acting insulin

Antibody based mediated therapy can delay progression of T1D and stem cell-derived beta cell transplantation provides a potential cure.

**Insulin secretion after a meal is preserved with anti-IL21/liraglutide therapy in phase 2**

- **Beta cell function** was improved with anti-IL-21/liraglutide vs placebo.
- **Insulin dose** was reduced with anti-IL-21 and liraglutide in combination or alone.
- **No safety or tolerability concerns** were reported.

**Stem cell-derived beta cells normalise glucose levels in mice**

- Beta cell device transplantation.
- Diabetic transplanted.
- Non-diabetic.
GLP-1 should ideally be used as early in the treatment cascade of type 2 diabetes as possible.
Rybelsus® is approved in the US with a competitive label

**Indication**
- Patients on OADs
- Patients on injections
- Patients with renal impairment

**Dosing**
- 3 mg for escalation
- 7 and 14 mg therapeutic dose
- Taken 30 min before breakfast
- Flexibility between doses

**CV safety**
- 76 MACE events with placebo vs 61 with Rybelsus®
- Supporting a safe CV profile

**Glycaemic control**
- Superior HbA1c lowering and target achievement vs empagliflozin and sitagliptin

**Safety and tolerability**
- GLP-1 class profile

**Body weight**
- Superior weight loss vs. sitagliptin and liraglutide
Novo Nordisk is at the forefront of innovation in the GLP-1 class and orally administered delivery devices

Development projects in progress

- Injectable QW GIP and semaglutide co-formulation
- Oral semaglutide with upgraded formulations
- New oral delivery devices ‘Soma’ and ‘Lumi’
- Use of GLP-1 in additional indications
Novo Nordisk is at the forefront of innovation in the GLP-1 class and orally administered delivery devices.
Semaglutide holds a plethora of therapeutic opportunities

**FOCUS**
Diabetic retinopathy outcomes trial
~1,500 patients
T2D ≥10 years

**Diabetes**

**SOUL**
Cardiovascular outcomes trial
~9,600 patients
T2D, established CVD or CKD

**CVD**

**SELECT**
~17,500 patients
with obesity without diabetes

**Obesity**

**FLOW**
Chronic kidney disease outcomes trial
~3,200 patients
T2D, moderate to severe CKD

**CKD**

**Semaglutide in NASH**
Phase 2 trials

**NASH**

**Investigator initiated trials**
- Alzheimer’s disease
- Parkinson’s disease

**Brain disorders**

**Brain**

**FIND**
Production cost of Rybelsus® is expected to decrease over time, as volume increases, and capacity is significantly higher.

**Rybelsus® production cost and volume**

- **Quantity & FMC**
  - FMC
  - Volume

**Production capacity today vs original plan**

- **2015**
- **2019**

**ILLUSTRATIVE**

FMC: Full manufacturing cost
7% of people with type 2 diabetes are treated with a GLP-1 in Western markets

~50% of patients on oral anti-diabetics are not in good control
The global GLP-1 market has accelerated over time following a string of key events.

**Global GLP-1 volume market by region**

CAGR 2007 – 2019: 25%

- Victoza® launched
- 1st weekly GLP-1 launched
- Dulaglutide launched
- LEADER label update
- Updated treatment guidelines
- Ozempic® launched

**Regions**
- North America
- Region Europe
- Region J&K
- Region LATAM
- Region AAMEO
- Region China
There are different dynamics across regions and GLP-1 penetration tends to be correlated with key events.

**GLP-1 value of total diabetes by geography**

- 3-year percentage-point delta

<table>
<thead>
<tr>
<th>Region</th>
<th>Asia</th>
<th>AAMEO</th>
<th>LATAM</th>
<th>J&amp;K</th>
<th>Europe</th>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLP-1 value of total diabetes</td>
<td>2%</td>
<td>3%</td>
<td>7%</td>
<td>7%</td>
<td>14%</td>
<td>21%</td>
</tr>
</tbody>
</table>

**Key events**

- Ozempic® launched
- Updated treatment guidelines
- LEADER results
- Dulaglutide launched
- 1st weekly GLP-1 launched
- Victoza® launched
Ozempic® launch has turned around a declining market share trend

### Novo Nordisk US GLP-1 value market share and share of growth

- **Market share**
  - 2016: 46%
  - 2019: 49%

- **Share of growth**
  - 2016: 30%
  - 2019: 46%

### Novo Nordisk GLP-1 value market share and share of growth in European countries where Ozempic® is launched

- **Market share**
  - 2017: 50%
  - 2019: 71%

- **Share of growth**
  - 2017: 30%
  - 2019: 63%
Ozempic® sourcing is primarily from outside the GLP-1 class but GLP-1s are still typically used after failure on other products.

**US TRx volume and Ozempic® source of patients**

- 26%
- 21%
- 24%
- 12%
- 10%
- 6%

>50%

**US ‘line of usage’ across product classes**

- Metformin
- SU
- DPP-4i
- SGLT-2i
- GLP-1

- 1st
- 2nd
- 3rd
- 4th
- 5th

[Diagrams showing percentage of patients sourced from each class of medication]
Doctors are excited for Rybelsus® - the first and only oral GLP-1

- **HbA₁c efficacy**
- **Weight loss**
- **Safety profile**
- **CV data**
- **Convenient administration**
There is room for both oral and injectable GLP-1s to drive class growth.

US patient dynamics in early type 2 diabetes treatment

~2 million patients in early type 2 diabetes treatment move to a more advanced regimen in any given year.

Novo Nordisk’s leading GLP-1 offerings

The preferred oral: RYBELSUS®

The preferred injectable: Ozempic®
There is room for both oral and injectable GLP-1s to drive class growth – and Novo Nordisk has a best-in-class portfolio.
The unmet need within diabetes is large and Novo Nordisk, with its core capabilities, is well positioned to drive change to defeat diabetes through a sustainable business approach.

Further raise the innovation bar for diabetes treatment by driving outcomes beyond HbA$_{1c}$ targeting diabetes-related comorbidities.

Novo Nordisk is well positioned to strengthen diabetes leadership position and aiming at a global value market share of more than 1/3.

Novo Nordisk has a strong outlook for continued global GLP-1 market leadership with best-in-class GLP-1 portfolio.

Closing remarks
Sources, notes and abbreviations – Diabetes strategy

**Diabetes Strategy**

- **Slide 11:** Sources: 1 Patient data: Novo Nordisk forecast; 2 Value data: 2018 data based on company reported sales and 2025 is based on a projection of diabetes market realised sales; Note: GLP-1+basal insulin combination sales are included in insulin; Other OAD includes metformin, SU and TZDs; DPP-4i+SGLT-2i products are included in the SGLT-2i group. Growth rates are compound annual growth rates (CAGR).
- **Slide 15:** Adolfsson P. et. al. ADA 2019; Increased Time-in-Range (TIR) Observed after Introduction of a connected Insulin Pen. 1076-P; Adolfsson P. et. al. ADA 2019; Improved Insulin Adherence after Introduction of a Smart Connected Insulin Pen. 126-LB
- **Slide 16 and 17:** Source: IQVIA PharMetrix claims data, IQVIA disease analyser, IQVIA MIDAS; value figures based on IQVIA MAT, Aug 2019. Patient data: Novo Nordisk forecast: GLP-1+Basal patients are included in insulin group; Diabetes market value data: 2018 data based on company reported sales; Note: Patient distribution across treatment classes is indicative and based on data for the USA, the UK, Germany and France. Other OADs cover: metformin, sulfonylurea, thiazolidinediones. Numbers do not add up to 100% due to rounding Abbreviations: OAD: Oral anti-diabetic
- **Slide 18:** Source: IQVIA, Aug 2019, SPOT rate, value, MAT
Sources, notes and abbreviations – Insulin

Insulin

• **Slide 19:** Source: Reported sales split; 1 based on first nine months of 2019
• **Slide 20:** 1 Volume: Volume development for human insulin and modern insulin; 2 Price: Price decline on human insulin and modern insulin; 3 Innovation: New-generation insulin
• **Slide 21:** Source: IQVIA, Sep 2019, volume, MAT, all countries
• **Slide 22:** Source for market shares and market growth and # insulin companies: IQVIA volume, MAT, Sep 2019; 1 Calculation based on Novo Nordisk reported sales FY 2018 divided by volume (in units) sold in 2018, multiplied by the average dose for people using insulin (40 units); 2 Includes reported sales from: Novo Nordisk, Sanofi and Eli Lilly; Sales in constant exchange rates. 2019 based on first nine months
• **Slide 23:** Note: Coverage is calculated based on the IQVIA, SPOT, value Sep 2019 in each country, where Novo Nordisk has launched the products and based on the coverage in the country e.g. US numbers is based on formulary coverage multiplied by the group average rebate for 2018.

Insulin innovation

• **Slide 26:** 1 Predicted profiles based on modelled phase 1 data
• **Slide 27:** Note: Insulin secretion AUC is based on a mixed meal tolerance test on the estimated means of AUC 0-4 h of C-peptide mean calculated on log-transformed observed and imputed concentrations +/- SEM; Abbreviation: T1D: Type 1 diabetes
Sources, notes and abbreviations – GLP-1

GLP-1

- **Slide 29:** Based on the PIONEER programme
- **Slide 30:** QW: once-weekly
- **Slide 34:** Source: IQVIA PharMetrix claims based on data from the USA, the UK, Germany and France
- **Slide 35:** Source: IQVIA MAT volume, Sep 2019
- **Slide 36:** Source: IQVIA MAT mDKK, Sep 2019
- **Slide 37:** Source: IQVIA MAT mDKK for USA and 3M rolling for Ozempic® EU launch countries, September 2019 latest observation
- **Slide 38:** Source: LRx we 23/08/2019, total writers YTD: 72,747; IQVIA LRx & Pharmetrics (US), n = >1 million patients
- **Slide 41:** Source: IQVIA in-market, LRx & Dx & LAAD & Pharmetrics 2019 (USA)
Novo Nordisk: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

Diabetes market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
Novo Nordisk: Insulin market size and volume share of growth and market share

**Insulin market share and market size (DKK billion)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Novo Nordisk</th>
<th>Competitors</th>
<th>Market Growth</th>
<th>Δ Market Share 1</th>
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<tbody>
<tr>
<td>Total</td>
<td>44%</td>
<td></td>
<td>7%</td>
<td>+0.7%</td>
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<tr>
<td>Basal</td>
<td>38%</td>
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<td>10%</td>
<td>+0.4%</td>
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<tr>
<td>Bolus</td>
<td>51%</td>
<td></td>
<td>7%</td>
<td>+0.3%</td>
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<tr>
<td>Premix</td>
<td>65%</td>
<td>19</td>
<td>8%</td>
<td>+1.4%</td>
</tr>
<tr>
<td>Human</td>
<td>36%</td>
<td>24</td>
<td>7%</td>
<td>-1.0%</td>
</tr>
</tbody>
</table>

**Insulin volume: Share of growth and market share**

<table>
<thead>
<tr>
<th>Year</th>
<th>NN share of growth</th>
<th>NN growth (right axis)</th>
<th>NN market share</th>
<th>Market growth (right axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2016</td>
<td>51%</td>
<td>46%</td>
<td>46%</td>
<td>2%</td>
</tr>
<tr>
<td>Sep 2019</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: IQVIA, Sep 2019, LHS graph – Value, RHS Graph - Volume, MAT, all countries
Novo Nordisk: GLP-1 market share and market growth

Source: IQVIA, September 2019, Value, MAT, all countries
OBESITY CARE

STRENGTHEN TREATMENT OPTIONS THROUGH MARKET DEVELOPMENT AND BY OFFERING INNOVATIVE MEDICINES AND DRIVING PATIENT OUTCOMES
Forward-looking statements

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Important drug information

• Victoza® is approved for the management of type 2 diabetes only
• Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
The global burden of obesity

650 MILLION adults have obesity

120 MILLION children have obesity

3.4 MILLION deaths were caused by obesity in 2010

2 TRILLION US dollars in annual global cost of obesity

Changing Obesity is a cornerstone of Novo Nordisk’s commitment to people living with obesity

**PREVENTION**

Novo Nordisk works to build healthier environments to enable improved health

**RECOGNITION**

Novo Nordisk works to foster empathy for people with obesity and make obesity a healthcare priority

**CARE**

Novo Nordisk works to ensure people with obesity have access to science-based and comprehensive care
Novo Nordisk and UNICEF enters partnership to help prevent childhood overweight and obesity

The global burden of obesity

650 MILLION adults have obesity

120 MILLION children have obesity

3.4 MILLION deaths were caused by obesity in 2010

2 TRILLION US dollars in annual global cost of obesity

Enhance knowledge about successful prevention policies in middle-income countries

Build awareness of the impact of overweight and obesity on children

Drive and strengthen multi-sector interventions in Latin America

Working together to prevent childhood overweight and obesity
MISSION

Change how the world sees people with obesity and **make obesity a healthcare priority**

Develop a leading portfolio of **superior treatment solutions**

---

**TODAY**

Anti-obesity medication market: ~15 million patients

**2025**

Anti-obesity medication market in 2025: ~24 million patients

- People treated with Novo Nordisk products
Saxenda® addresses a global unmet need for medical weight management

Global obesity prevalence

- Percent with BMI >30

Saxenda® launched countries

- Saxenda® now launched in **45 countries** with **15 more** to come by 2022
Novo Nordisk aims at doubling obesity sales and strengthening market leadership by 2025

Global obesity value market leadership expanded to 55% with steadily increasing Saxenda® sales since launch
Making obesity a healthcare priority requires stakeholder engagement

Addressing market development barriers

1. **Patient demand and support**
   - Reduce stigma and bias and engage people with obesity to seek medical care

2. **Prescriber focus**
   - Support prescribers on obesity care and how to treat obesity as a chronic disease

3. **Policymaker priorities**
   - Prioritise obesity care in comparison to treating complications

4. **Payer willingness**
   - Build understanding of the long-term cost benefits of obesity care

**HCPs take action by referring or managing obesity as any other chronic disease**

- **Stigma is socially unacceptable**
- **Willingness to pay for chronic obesity care**
- **Treatment guidelines in place**
- **PwO seek medical support**
- **Obesity recognised as a serious chronic disease**
- **Healthcare system funds obesity prevention**

PwO: People with obesity; HCP: Healthcare professional
Supporting patients and prescribers is crucial to improve patient outcomes

1. Patient support programmes and digital solutions **increase adherence**

- No PSP
- SaxendaCare
- SaxendaCare & Noom

  +33%

  +18%

2. **Support prescribers** to address obesity with their patients

- Advance quality of care in obesity clinics: +500

- Partnering to support education and advocacy

Note: Percentages relate to increased script fillings
Engaging with a broad range of coalition partners is instrumental to drive the call to action for improved obesity care

**3. Policymakers prioritising funding for obesity care**

- Bring together obesity experts and policy makers to discuss obesity solutions
- Objective to secure increased willingness to pay for anti-obesity medication treatment
- Bipartisan bill to expand Medicare coverage
- Includes screening, obesity care and FDA approved medications for chronic weight management

**4. Provide payers with evidence of cost benefits of obesity care**

**Data**

- Real-World-Evidence

**Health economics**

- Cost-effectiveness data
- EU HTA submission

**Contracting**

- Outcomes-based
- Sub-populations
- Employer-driven
Novo Nordisk is committed to drive change for people with obesity through market development activities and continued innovation

**Strengthen leadership and double current sales by 2025**
Ensuring continued global rollout of Saxenda® and market development activities as well as bringing semaglutide obesity to market

**Improve disease awareness**
Address stigma and weight bias in society as well as increase understanding of obesity as a chronic disease

**Expand anti-obesity medication usage**
Address the patient stigma, prescriber focus, policymaker priorities and payer willingness with specific strategic actions

**Offer individualised treatment solutions**
Develop treatments meeting the unmet needs of people with obesity
People with obesity are at an increased risk of developing severe comorbidities that are life-threatening and costly for society.

- **Reduces risk of type 2 diabetes**
- **Diabetes**
- **Reduces risk of CVD**
- **CVD**
- **Reduces risk of heart failure**
- **Heart failure**
- **Reduces risk of osteoarthritis**
- **Osteoarthritis**
- **Improves severity of sleep apnoea**
- **Sleep apnoea**

Reduces risk of type 2 diabetes, reduces risk of heart failure, reduces risk of CVD, reduces risk of osteoarthritis, improves severity of sleep apnoea.

5-10% weight reduction.
Novo Nordisk aims at closing the gap between available medication and surgery by increasing the number of treatment options.

**Treatment options**

- Today’s available medication (3-9% after 1 year)\(^1\)
- Bariatric surgery (12-45% after 3 years)\(^2\)

**Innovation curve**

- Body weight set-point and counter regulation
- Weight loss prediction for patient groups
- Oral product
- 20-30% weight loss
- Targeted treatment solutions
- Normalised weight
- 10-15% weight loss
- Saxenda®

**Weight loss over time**

\(^1\) Today's available medication is expected to result in a weight loss of 3-9% after 1 year.
\(^2\) Bariatric surgery can lead to a weight loss of 12-45% after 3 years.
Phase 2 trial for semaglutide obesity showed a 16.2% weight loss after 1 year

Key points

- No weight loss plateau on highest dose over trial duration leading to a 16.2% weight loss
- Nearly two out of three experienced >10% weight loss on highest dose
- 80% of patients completed the trial
Semaglutide obesity is the first STEP towards bringing more efficacious treatment options to market.

### Phase 3 STEP programme

#### 2019

**STEP 1:** *Weight management*
- Semaglutide 2.4 mg: 1,950
- Placebo
- Duration: 68 weeks

**STEP 2:** *Weight management in T2D*
- Semaglutide 2.4 mg: 1,200
- Placebo
- Duration: 68 weeks

#### 2020

**STEP 3:** *Maximising weight loss*
- Semaglutide 2.4 mg: 600
- Placebo: 400
- Duration: 68 weeks

**STEP 4:** *Maintaining weight loss*
- Semaglutide 2.4 mg: 900
- Placebo: 300
- Duration: 68 weeks

#### 2021

**STEP 5:** *Sustained weight loss*

**STEP 6:** *East Asian*
SELECT CVOT is expected to generate evidence of the benefits beyond weight loss of obesity managed as a chronic disease.
Novo Nordisk obesity pipeline supports efforts to close the treatment gap

- **Launched Saxenda®**
  - 5-10%

- **Phase 3 Semaglutide Obesity**
  - 10-15%

- **Phase 2 AM833**
  - 15-30%

- **Phase 1**
  - PYY 1562
  - PYY 1875
  - Tri-agonist
  - GG-co-agonist
  - LA-GDF15
  - Sema+AM833

**Obesity pipeline priorities**

- Increase weight loss towards 15-30%
- Investigate product combinations
- Provide data applicable for individualised treatment
Promising phase 1 results for AM833 and the phase 2 trial is ongoing

Key points

- Amylin directly targets the central nervous system to reduce appetite and body weight
- AM833 is a long-acting human amylin analogue
- AM833 was well-tolerated and demonstrated strong weight loss during 8 weeks of dosing
- AM833 phase 2 and combined semaglutide obesity and AM833 phase 1 results in H1 2020
Strengthen leadership and double current sales by 2025

Change the perception of obesity and make obesity a healthcare priority

Develop a leading portfolio of superior treatment solutions

Ensure more people with obesity receive treatment and improved outcomes
Sources, notes and abbreviations – Obesity

- **Slide 52/53**: Source: World Health Organisation (WHO), 2016. Adults are age ≥18 years and obesity is defined as BMI ≥ 30. BMI: Body Mass Index
- **Slide 54**: Estimated around 2% of people with obesity receive anti-obesity medication treatment. WHO, 2016
- **Slide 55**: WHO, 2016; BMI: Body Mass Index
- **Slide 56**: Company reported sales, IQVIA MAT value DKK, Sep 2019. CER: Constant exchange rates
- **Slide 58**: Results are based on US real-world evidence. Percentages refer to Rx fill rates increases. PSP: Patient support programme; Noom: Leader in mobile health coaching the power of technology with the empathy of human coaches to deliver successful behaviour change at scale
- **Slide 59**: OPEN: Obesity Policy Engagement Network; TROA: Treat and Reduce Obesity Act; HTA: Health technology assessment
- **Slide 61**: CVD: Cardiovascular disease
Novo Nordisk: Obesity market share and market growth

Source: IQVIA, Sep 2019, Value MAT, all countries
BIOPHARM

SECURE A LEADING POSITION

BY LEVERAGING FULL PORTFOLIO AND EXPANDING INTO ADJACENT AREAS
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Solid commercial execution is driving 4% sales growth in first nine months of 2019

Biopharm has returned to growth with 4% sales growth in first nine months of 2019

Added sales in the haemophilia product portfolio

<table>
<thead>
<tr>
<th>Product Portfolio</th>
<th>9M 2017</th>
<th>9M 2018</th>
<th>9M 2019</th>
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<tbody>
<tr>
<td>NovoSeven®</td>
<td>7.1</td>
<td></td>
<td>7.7</td>
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<tr>
<td>NovoEight®</td>
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<td></td>
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<tr>
<td>Refixia®</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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</table>

-18%  -1%  4%

5% growth at CER

<table>
<thead>
<tr>
<th>Growth at CER</th>
<th>Other</th>
<th>9M 2019</th>
</tr>
</thead>
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<td></td>
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<td>7.7</td>
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</tbody>
</table>
Solid commercial execution is driving 4% sales growth in first nine months of 2019

Biopharm has returned to growth with 4% sales growth in first nine months of 2019

Norditropin® value leadership maintained despite increasing competition
Current and future growth is supported by a genuine portfolio of products and devices with an intensive launch agenda.

Well-positioned with a full haemophilia product portfolio

Evolution through product and device upgrades for GHD

Product upgrade
- Nanormon® → norditropin

Device upgrade
- norditropin simpleXx → norditropin flexpro
- norditropin nordilet → norditropin nordiflex

Uninterrupted global launches and new indications

**Current launches**
- refixia®: 15
- esperoct®: 2
- norditropin: 16

**Towards 2022**
- refixia®: +15
- esperoct®: +25
- norditropin: +30

Nanormon®and Noonan syndrome, EU device upgrades
Biopharm exhibits the traditional features of a strong speciality care unit

- Focused health care professional base
- Skilled scientific medical sales force and commercial unit
- Deep scientific knowledge
- Robust life-cycle management

**Biopharm ticks all speciality care boxes**

**Identify new patients in rare diseases, such as Noonan syndrome in Japan**

![Graph showing accumulated number of patients from 2018 to 2019]

**Leveraging a deep disease understanding with NovoSeven®**

- New patients
- Switched patients

Note: BTB: Breakthrough bleed; Prophyl.: Prophylaxis
Biopharm has a strategic path forward in rare blood disorders and rare endocrine disorders.

**Haemophilia market value**

- Rare Blood Disorders market value
- DKK billion
- 2018: 164 (94 Haemophilia, 70 Rare Blood Disorders)
- 2024: 284 (189 Rare Blood Disorders, 95 Haemophilia)
- Annual growth rate: +10%

**Growth hormone disorders market value**

- Rare Endocrine Disorders market value
- DKK billion
- 2018: 104 (83 Growth hormone deficiency, 21 Rare Endocrine Disorders)
- 2024: 197 (168 Rare Endocrine Disorders, 29 Growth hormone deficiency)
- Annual growth rate: +11%
Biopharm sustained growth outlook is supported by innovation and utilisation of core capabilities

Internal and external innovation to drive long-term growth

- Bringing **internal innovation** to market by pipeline progression
- Ensuring future growth by leveraging **external innovation**

Core capabilities within research and development to drive long-term growth

- Exploring new technologies by utilising added **research platforms**
- Leveraging deep **biological understanding** for future growth
Scientific excellence ensures an innovative and competitive pipeline with therapeutic solutions for severe conditions.

### Biopharm pipeline

<table>
<thead>
<tr>
<th>Current phases</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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</thead>
<tbody>
<tr>
<td><strong>Phase 3a</strong></td>
<td></td>
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<td>Concizumab HA and HB</td>
<td>Concizumab HAwI/HBwI</td>
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<tr>
<td><strong>Phase 3a</strong></td>
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<td>Concizumab</td>
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<tr>
<td><strong>Phase 1</strong></td>
<td>EPI01 (SCD)</td>
<td>Mim8</td>
<td></td>
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<tr>
<td><strong>Phase 1/2</strong></td>
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<td></td>
<td>Somapacitan GHD</td>
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<tr>
<td><strong>Phase 3</strong></td>
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<td>Somapacitan SGA</td>
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<tr>
<td><strong>Phase 2</strong></td>
<td></td>
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</tr>
</tbody>
</table>

**More than 35 years of innovation**

- Concizumab
- HA and HB
- SCD
- EPI01 (SCD)
- Mim8

**Innovative therapies**

- Esperoct®
- Refixia®
- NovoEight®
- NovoThirteen®
- NovoSeven®

**Future developments**

- Scientific excellence ensures an innovative and competitive pipeline with therapeutic solutions for severe conditions.

SCD: Sickle-cell disease; SGA: Short of gestational age
Phase 3 initiated with concizumab for HA, HB with and without inhibitors

- High affinity, humanised monoclonal IgG4 antibody
- First-in-class anti-TFPI boosting the initiation phase to restore haemostasis
- Delivered once-daily in a convenient Flextouch® pen
- Safe and well-tolerated in phase 2 and efficacy comparable to factor replacement

TF: Tissue factor; TFPI: Tissue factor pathway inhibitor
Phase 3 initiated with concizumab for HA, HB with and without inhibitors

**Phase 3 trials with data expected first half of 2021**

- **Exp7 and Exp8**: On-demand treatment
- **Exp7 and Exp8**: Phase 2 patients on concizumab prophylaxis
- **Exp7 (with inhibitors)**: Prophylaxis with bypassing or on-demand
- **Exp8 (without inhibitors)**: Prophylaxis with factor replacement or on-demand

**Main part:**
24 weeks treatment

**Extension:**
Up to 136 weeks treatment

- **Arm 1**: No prophylaxis
- **Arm 2**: Concizumab prophylaxis
- **Arm 3**: Concizumab prophylaxis
- **Arm 4**: Concizumab prophylaxis

**Concizumab mode of action**

TF: Tissue factor; TFPI: Tissue factor pathway inhibitor
Next-generation FVIII mimetic, Mim8, is a bispecific antibody for subcutaneous prophylaxis treatment in people with haemophilia A.

**Mim8 potently stimulates FX activation** resulting in efficacious haemostasis *in vitro* and *in vivo*.

**Mim8 effectively stops severe bleeds** in mouse models.

Phase 1/2 is expected to be *initiated H1 2020*.

*Sequence-identical-analogue (SIA) of the FVIII-mimicking bispecific antibody emicizumab*
Once-weekly, biodegradable somapacitan has entered phase 3 for GHD and is filed with the US and EU regulators for AGHD indication.

**Somapacitan in children (GHD)**
- Phase 3 trial (REAL 4) has been initiated
- Somapacitan dose 0.16 mg/kg/week

**Somapacitan in adults (AGHD)**
- Has been submitted in the US and the EU
- Japan submission planned for first half of 2020

**Somapacitan in children (SGA)**
- Phase 2 trial (REAL 5) has been initiated

**Next steps**
- Somapacitan in children (GHD)
  - Phase 3 trial (REAL 4) has been initiated
  - Somapacitan dose 0.16 mg/kg/week
- Somapacitan in children (SGA)
  - Phase 2 trial (REAL 5) has been initiated
- Somapacitan in adults (AGHD)
  - Has been submitted in the US and the EU
  - Japan submission planned for first half of 2020

* Denotes statistical significance
Novo Nordisk and bluebird bio join forces in next-generation genome editing for children and adult patients with haemophilia A

Potential curative treatment in haemophilia A

- mRNA-based megaTAL™-driven gene editing
- **Highly specific and efficient** way to silence, edit or insert genetic components.
- Allows for **gene editing in all age groups**

bluebird bio/Novo Nordisk’s joint approach

- **megaTAL™**: Proprietary, patented technology, broad IP
- Correcting FVIII-clotting factor deficiency
- Potential **life long** effect
- Possibility to explore additional therapeutic targets

AAV: Adenovirus vector; BDD: B-domain deleted; hFVIII: human factor VIII; LNP: Lipid nanoparticle; mRNA: messenger ribonucleic acid; TAL: transcription activator-like.
Secure a sustained growth outlook for Biopharm by leveraging commercial competencies and ensure frequent launches

Strengthen and progress the Biopharm pipeline
Sources, notes and abbreviations – Biopharm

- **Slide 73**: Company reported sales; CER: Constant exchange rates
- **Slide 74**: Company reported sales, IQVIA, MAT value DKK, Sep 2019
- **Slide 75**: GHD: Growth hormone deficiency
- **Slide 76**: Company numbers for patient count
- **Slide 77**: Market size is based on EvaluatePharma, 2018. Market share for haemophilia is based on company reported sales. Market share for GHD is IQVIA, MAT, DKK, Sep 2019.
- **Slide 79**: HwI: Haemophilia A or B patients with inhibitors; SGA: small for gestational age; GHD: Growth hormone deficiency
- **Slide 82**: GHD: Growth hormone deficiency; AGHD: Adult growth hormone deficiency; SGA: Small for gestational age
- **Slide 83**: Data are mean height velocity (cm/year) ± SD at week (wk) 52. Doses are mg/kg/time. * Denotes statistical significance difference compared to once-daily Norditropin®. GHD: Growth hormone deficiency; AGHD: Adult-onset growth hormone deficiency. ¹ Value was 9.8 for the full analysis set. Value of 10.0 is from a post-hoc analysis that excluded 4 visits of one patient who discontinued prematurely at week 6
NORTH AMERICA OPERATIONS
Forward-looking statements

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Important drug information

- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
Novo Nordisk current growth outperforms competition in all modern insulin segments in China.
In a few years, Novo Nordisk USA is expected to have

two new blockbusters on the market

notably increased the number of patients treated

turned around ~70% of sales
Novo Nordisk’s legacy products are expected to continue their decline in the coming years in the USA.

- Mature insulin products are expected to continue declining.
- Victoza® is expected to continue being a significant drag on GLP-1 sales.
- Biopharm is expected to remain under competitive pressure.
Innovation drives the largest transition in the history of Novo Nordisk USA, turning around 70% of sales in just seven years.

Directional growth drivers and catalysts

**GLP-1**
- Ozempic® launch
- Rybelsus® launch
- Victoza® LoE

**Obesity**
- Semaglutide obesity launch
- Saxenda® LoE

**Insulin**
- Continued price pressure
- Biosimilar competition

**Biopharm**
- Competitive pressure
- New product launches

Relative sales composition

- Biopharm
- Mature insulin
- Victoza®
- Obesity
- New GLP-1 launches
- New insulin launches

ILLUSTRATIVE
The value of the US diabetes market has plateaued but dynamics across product classes are very different.

**US branded diabetes market in value per product class, 9M 2019**

DKK 105 billion down by -1.6% vs 9M 2018

- Insulin: 41%
- GLP-1: 33%
- DPP-4i: 15%
- SGLT-2i: 11%

**US added sales per product class**

3-year CAGR

- Insulin: +10%
- GLP-1: +20%
- DPP-4i: -15%
- SGLT-2i: -10%
The value of the US diabetes market has plateaued but dynamics across product classes are very different.
Market dynamics continue to shift rapidly, impacting the US healthcare landscape

- Payer consolidations
- Digital transformation of healthcare
- Government intervention
- Increasing affordability focus
Novo Nordisk offers affordability programmes to increase support to patients inside and outside the system

Increase support for patients inside the insurance system

- Supporting Affordable Patient Access with access rebates and co-pay assistance programmes
- Partnering with CIGNA/ESI on benefit design related to IRS\(^1\) Preventive Benefit Change
- Follow-on brand insulin\(^2\)

Expand support for patients outside the system

- Patient Assistance Program providing free medicines to eligible people
- USD 99 insulin savings programme

Safety net for those patients inside and outside the system

- Affordable Human Insulin Option making human insulin available for USD 1-2/day at national pharmacies, including Walmart and CVS
Novo Nordisk has a clear strategy to successfully navigate through a crucial time in the USA

---

**GROW**

- **GLP-1**
  - Grow GLP-1 value

- **Obesity**
  - Accelerate obesity market growth

- **Insulin**
  - Drive Tresiba® growth and defend against insulin erosion

- **Biopharm**
  - Ensure strong product launches and manage NovoSeven® pressure

---

**MANAGE FOUNDATION**

---

**EVOLVE OPERATING MODEL**

---

**ENHANCE CAPABILITIES**

---

**OUR PEOPLE AND CULTURE**
Novo Nordisk has a clear strategy to successfully navigate through a crucial time in the USA

**GROW**
- **GLP-1**
  - Grow GLP-1 value
- **Obesity**
  - Accelerate obesity market growth
- **Insulin**
  - Drive Tresiba® growth and defend against insulin erosion
- **Biopharm**
  - Ensure strong product launches and manage NovoSeven® pressure

**MANAGE FOUNDATION**

**EVOLVE OPERATING MODEL**

**ENHANCE CAPABILITIES**

**OUR PEOPLE AND CULTURE**
Novo Nordisk has an opportunity to further grow the GLP-1 diabetes segment with a best-in-class portfolio.

- Realise semaglutide portfolio positioning
  - Preferred oral
  - Preferred injectable
  - Prepare for loss of exclusivity

- Transform type 2 diabetes treatment beyond HbA1c control

- Establish semaglutide as the foundation
Novo Nordisk has an opportunity to further grow the GLP-1 diabetes segment with a best-in-class portfolio.
Rybelsus® and Ozempic® can co-exist with a clear execution strategy and clinical trials to support promotional efforts.

A competitive oriented positioning to maximise portfolio impact

Key clinical trials to support a broad usage of GLP-1

- **PIONEER 3** vs SITAGLIPTIN
- **PIONEER 2** vs EMPAGLIFLOZIN
- **PIONEER 4** vs LIRAGLUTIDE
- **SUSTAIN 7** vs DULAGLUTIDE
- **SUSTAIN 4** vs GLARGINE
- **SUSTAIN 5** ADD-ON TO GLARGINE

Post metformin Insulin

Post metformin Insulin
Research suggests that the GLP-1 class could triple with oral GLP-1 as a treatment opportunity but access is a key uptake variable.

Patients on a GLP-1 based on a survey among healthcare professionals

- ~7% Today
- ~25% Future

Access uptake since launch for selected once-weekly injectable GLP-1s in the USA

- Ozempic®
- Dulaglutide

Quarters since launch
Novo Nordisk USA is going through a **historic transition** transforming ~70% of sales\(^1\)

Despite a **challenging environment**, North America remains a **crucial market to Novo Nordisk** with notable opportunities particularly with **Ozempic®** and **Rybelsus®**.

Novo Nordisk USA has a **clear strategy** to successfully navigate through a crucial time.

---

\(^1\) 2015-2022
Sources, notes and abbreviations – North America Operations

- **Slide 91**: Mature insulin: modern insulin and human insulin
- **Slide 92**: 1 Modern insulin, human insulin, Prandin®, devices and needles; 2 Ozempic® and Rybelsus®; 3 Tresiba®, Xultophy®, Fiasp® and follow-on brand insulin
- **Slide 93**: Note: added sales at constant exchange rate (CER); source: Company reported numbers
- **Slide 94**: Note: added sales at constant exchange rate (CER); source: Company reported numbers, IQVIA MAT mDKK, September 2019 latest observation
- **Slide 96**: 1 Available from Novo Nordisk Pharma, Inc., a Novo Nordisk A/S company; IRS: Internal Revenue Service
- **Slide 101**: Glargine U100 in SUSTAIN 4 and SUSTAIN 5
- **Slide 102**: Source: 2017/2018 Oral Semaglutide Market Map HCP Research, n = 50 US based doctors evenly split among endocrinologists, PCPs high- and low prescribers, and non-writing PCPs; Source: Fingertip Formulary bridge (commercial and Part D combined)
North America Operations: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

Diabetes market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
North America Operations: Insulin market size and volume share of growth and market share

**Insulin market share and market size (DKK billion)**

- **Total**
  - Novo Nordisk: 43%
  - Competitors: 57%
  - Market size: 208 billion
  - Market growth: 7%
  - Δ Market share: +1.0%

- **Basal**
  - Novo Nordisk: 39%
  - Competitors: 61%
  - Market size: 104 billion
  - Market growth: 11%
  - Δ Market share: +2.3%

- **Bolus**
  - Novo Nordisk: 50%
  - Competitors: 50%
  - Market size: 78 billion
  - Market growth: 8%
  - Δ Market share: +0.3%

- **Premix**
  - Novo Nordisk: 17%
  - Competitors: 83%
  - Market size: 17 billion
  - Market growth: -3%
  - Δ Market share: +1.2%

- **Human**
  - Novo Nordisk: 16%
  - Competitors: 84%
  - Market size: 16 billion
  - Market growth: 3%
  - Δ Market share: -0.9%

**Insulin volume: Share of growth and market share**

- **Market growth**
  - NN share of growth
  - NN market share

**Source:** IQVIA, Sep 2019, LHS graph – Value, RHS Graph – Volume, MAT, all countries
North America Operations: GLP-1 market share and market growth

**GLP-1 market growth and Novo Nordisk market share**

- **NN share of growth**
- **NN growth**
- **NN market share**
- **Market growth**

**GLP-1 market size and growth**

- **DKK billion**
- **~45%**
- **~49%**

Source: IQVIA, September 2019, Value, MAT, all countries
North America Operations: Obesity market share and market growth

Obesity market growth and Novo Nordisk market share

Obesity market size and growth

Source: IQVIA, Sep 2019, Value, MAT, all countries; Share of growth not depicted due to too high numbers
INTERNATIONAL OPERATIONS
Forward-looking statements

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Important drug information

- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
Sales growth has historically been 4-6% but growth momentum has increased driven by demographics and the Market Fit approach.

International Operations is diverse and covers 190 markets:

- 430 million people living with diabetes in IO
- 570 million people living with obesity in IO

IO’s share of revenue YTD 2019:

- IO: 53%
- NAO: 47%

Historic growth has been in the range of 4-6%:

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>4%</td>
</tr>
<tr>
<td>2019</td>
<td>11%</td>
</tr>
</tbody>
</table>

Growth momentum has benefitted from the Market Fit approach:

- NN diabetes growth
- Diabetes market growth
- NN diabetes SoG
- NN market share

- Sep 2016: 8%
- Market Fit approach introduced: 10%
- Sep 2019: 9%
The medium-term growth is expected to be 6-10% annually driven by securing the base and three future growth enablers.

**Sales have increased by 5% since 2013, while medium-term growth is expected to be 6-10%**

- **Secure the sales base by leveraging biopharm and portfolio of short-acting and premix insulin of DKK 39 billion**

- **Drive additional growth through three future growth enablers**
  - Establish basal market leadership
  - Drive GLP-1 market growth
  - Expand the obesity market
IO has the ambition to become market leader within basal insulin by leveraging Tresiba® and Xultophy® with the Market Fit approach.

Medium-term ambition is to become leader in the basal insulin segment.

Secure the sales base of DKK 6 billion by offering a portfolio of basal human and modern insulin.

Enable future growth by launches of new-generation basal insulin with the Market Fit approach.

**Novo Nordisk is driving the volume growth in the basal market and expects to gain leadership**

<table>
<thead>
<tr>
<th></th>
<th>NN growth</th>
<th>Market growth</th>
<th>NN share of growth</th>
<th>NN market share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2016</td>
<td>10%</td>
<td>5%</td>
<td>45%</td>
<td>7%</td>
</tr>
<tr>
<td>Sep 2019</td>
<td>32%</td>
<td>7%</td>
<td>31%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Today 2020-22

**TRESIBA** 80 + 10

**Xultophy** 30 + 15
Novo Nordisk is expected to drive GLP-1 market growth through continuous rollout of Ozempic® and launch of Rybelsus®

Medium-term ambition to increase the share of growth in the GLP-1 market to more than 50%

Secure the sales base of DKK 6 billion in Victoza® GLP-1 sales by leveraging the CV indication for Victoza® in the 80 markets without Ozempic®
Novo Nordisk is expected to drive GLP-1 market growth through continuous rollout of Ozempic® and launch of Rybelsus®

Medium-term ambition to increase the share of growth in the GLP-1 market to more than 50%

Secure the sales base of DKK 6 billion in Victoza® GLP-1 sales by leveraging the CV indication for Victoza® in the 80 markets without Ozempic®

Continued rollout of best in class GLP-1s with Ozempic® and Rybelsus® utilising the Market Fit approach

Ozempic®
- Launched in 23 markets and >40 launches planned by 2022

Rybelsus®
- Expected to be launched in more than 30 countries by 2022

In markets where Ozempic® is launched the share of growth is higher than the market share

- NN share of growth
- NN market share

<table>
<thead>
<tr>
<th>Sep 2016</th>
<th>Sep 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>24%</td>
<td>64%</td>
</tr>
<tr>
<td>77%</td>
<td>62%</td>
</tr>
</tbody>
</table>
Market development activities are progressing in IO and the obesity market is expanding driven by rollout of Saxenda®

**Sxenda® is driving the value market growth in the International Operations obesity market**

<table>
<thead>
<tr>
<th></th>
<th>Saxenda®</th>
<th>Others¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2018</td>
<td>3.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Sep 2019</td>
<td>3.9</td>
<td>-0.1</td>
</tr>
</tbody>
</table>

24% ~12% 60% 34%

**Continue rollout of Saxenda®**

Today 43 Towards 2022 15

Countries Countries

Offer patient support programmes to improve current 2-5 months stay-time and support affordability

Prepare for launch of semaglutide obesity
Closing remarks

Increase growth compared to historic levels with a 6-10% growth outlook towards 2025

Securing the base and enable future growth drivers are important for success

Become market leader within basal insulin

Drive GLP-1 market growth and sales

Expand the obesity market with Saxenda®
Sources, notes and abbreviations – International Operations

• **Slide 111**: Source: Reported sales and IQVIA, Sep 2019, Spot, MAT; WHO for obesity prevalence and IDF for diabetes prevalence
• **Slide 112**: Source: Realised 2013-2018 sales numbers and illustrative development towards 2025
• **Slide 113**: Source: IQVIA, Sep 2019, Volume, MAT; note: Tresiba® was launched first time in IO in Mar 2013 (DK, JP & UK)
• **Slide 114**: Source: IQVIA, Sep 2019, value, spot, MAT
• **Slide 115**: Source: IQVIA, Sep 2019, value, SPOT, in countries in International Operations with Ozempic® launched
• **Slide 116**: Source: IQVIA, Sep 2019, value, Spot, MAT; Others include: NC Pharma, Roche, Hypermarcas Ifa Celtics, Prati Donaduzzi, Inova Pharma and other smaller obesity companies
International Operations: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

Diabetes market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
International Operations: Insulin market size and volume share of growth and market share

<table>
<thead>
<tr>
<th>Insulin Type</th>
<th>Market Share</th>
<th>Market Size (DKK billion)</th>
<th>Market Growth</th>
<th>Δ Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>48%</td>
<td>57</td>
<td>5%</td>
<td>+0.6%</td>
</tr>
<tr>
<td>Basal</td>
<td>33%</td>
<td>25</td>
<td>7%</td>
<td>+1.5%</td>
</tr>
<tr>
<td>Bolus</td>
<td>58%</td>
<td>15</td>
<td>4%</td>
<td>+0.6%</td>
</tr>
<tr>
<td>Premix</td>
<td>74%</td>
<td>8</td>
<td>3%</td>
<td>+1.0%</td>
</tr>
<tr>
<td>Human</td>
<td>50%</td>
<td>9</td>
<td>-1%</td>
<td>-0.7%</td>
</tr>
</tbody>
</table>

Source: IQVIA, Sep 2019, LHS graph – Value, RHS Graph - Volume, MAT, all countries
International Operations: GLP-1 market share and market growth

GLP-1 market growth and Novo Nordisk market share

Source: IQVIA, Sep 2019, Value, MAT, all countries

GLP-1 market size and growth

Source: IQVIA, Sep 2019, Value, MAT, all countries
International Operations: Obesity market share and market growth

**Obesity market growth and Novo Nordisk market share**

- **Market growth (right axis)**:
  - Sep 2016: 2%
  - Sep 2019: 34%

- **NN market share**:
  - Sep 2016: 4%
  - Sep 2019: 34%

**Obesity market size and growth**

- **DKK billion**:
  - Sep 2018: 3.5
  - Sep 2019: 3.9

- **Change**:
  - Saxenda®: 24%
  - Others: ~60%
  - Others: -0.1

---

Source: IQVIA, Sep 2019, Value, MAT, all countries
REGION EUROPE AND REGION JAPAN & KOREA
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Important drug information

- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
Securing success in Region Europe and Region Japan & Korea is important for continued strong growth in IO

~50% of IO sales

More than 7 million patients treated with Novo Nordisk products and several key markets

Early launch markets and fast adoption of new products
REGION EUROPE

SIMONE LENSBOE & LONE KONGESKOV PEDERSEN
Simone has type 2 diabetes
Denmark
Sales growth in Region Europe has accelerated driven by a clear strategy and sharpened focus on execution.

Region Europe annual sales growth at CER

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0.2%</td>
</tr>
<tr>
<td>2015</td>
<td>1.8%</td>
</tr>
<tr>
<td>2016</td>
<td>1.4%</td>
</tr>
<tr>
<td>2017</td>
<td>3.1%</td>
</tr>
<tr>
<td>2018</td>
<td>2.5%</td>
</tr>
<tr>
<td>2019¹</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

¹: Estimated value.
Sales growth in Region Europe has accelerated driven by a clear strategy and sharpened focus on execution.

**Region Europe annual sales growth at CER**

<table>
<thead>
<tr>
<th>Year</th>
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<td>2.5%</td>
</tr>
<tr>
<td>2019</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

**WinEurope2020 strategy**

- Deliver better care for patients
- Shape our healthcare environment
- Lead with a business mind-set
- Excel in operations

**Grow Market Share**
A clearly defined strategy sets the direction for growing market share and outperforming competition in Europe.

**Grow Market Share**

- Deliver better care for patients
- Shape our healthcare environment
- Lead with a business mind-set
- Excel in operations

**Region Europe diabetes value market share and share of growth**

- **Market share**:
  - Sep 2017: 27%
  - Sep 2019: 34%

- **Share of growth**: Upward trend from Sep 2017 to Sep 2019
Novo Nordisk takes an active role in driving better understanding and improvements of healthcare.

Drug spending and disease burden in Europe across the largest therapy areas:

- **Autoimmune**:
  - Drug expenditure: 43 EUR billion (21%)
  - Other: 79% of expenditure

- **Oncology**:
  - Drug expenditure: 70 EUR billion (38%)
  - Other: 62% of expenditure

- **Diabetes**:
  - Drug expenditure: 93 EUR billion (93%)
  - Other: 7% of expenditure
Delivering better care for patients is driving market share gains

Novo Nordisk GLP-1 value market share and share of growth in European countries where Ozempic® is launched

- Market share
- Share of growth

<table>
<thead>
<tr>
<th>CV indication</th>
<th>Sep 2017</th>
<th>Sep 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>VICTOZA®</td>
<td>71%</td>
<td>63%</td>
</tr>
<tr>
<td>OZEMPIC</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>0%</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>20%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Delivering better care for patients is driving market share gains
Sales growth in Region Europe has accelerated driven by a clear strategy and sharpened focus on execution.
Sales growth in Region Europe has accelerated driven by a clear strategy and sharpened focus on execution.

Region Europe annual sales growth at CER

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>2019</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

Expected Novo Nordisk Europe share of growth per product class in the short- to mid-term

- GLP-1: 65%
- Insulin: 18%
- Obesity: 14%
- Biopharm: 3%
Sales growth in Region Europe has accelerated driven by a clear strategy and sharpened focus on execution.

**Expected Novo Nordisk Europe share of growth per product class in the short- to mid-term**

- **GLP-1**: 65%
- **Insulin**: 18%
- **Obesity**: 14%
- **Biopharm**: 3%

**GLP-1**
- Ensure that Ozempic® and Rybelsus® deliver market share increases and market segment growth

**Insulin**
- Differentiate basal insulin, protect bolus insulin franchise and optimise resource allocation

**Obesity**
- Secure public reimbursement while improving out-of-pocket patient access for Saxenda® and prepare for semaglutide obesity

**Biopharm**
- Excel new haemophilia launches and label extensions
- Excellence in GHD and prepare for somapacitan
**Region Japan & Korea is going through some notable changes**

### Patients
- Ageing society
- Longer life expectancy
- More elderly living alone

### Healthcare professionals
- Tighter regulation on promotion
- More restriction on physicians visits
- More regulation on interactions with health care professionals and promotional materials

### Payers & Regulators
- More use of generics and biosimilars
- New drug pricing policy introduction and expansion of health technology assessments
- Introduction of comprehensive regional care

### Competitors
- Increase in brand share of voice by co-promotion
- Entry of new product classes
- Numerous upcoming launches
Novo Nordisk has great potential to improve its market footprint in Japan

Diabetes value market per product class

- OAD segment is by far the most dominant in the Japanese diabetes market

5-year CAGR: 5.3%

CAGR per class

- 4%
- 90%
- -9%
- 36%
- 3%

Insulin value market shares

- Novo Nordisk has taken market share in the insulin space with new-generation portfolio

GLP-1 value market shares

- Novo Nordisk has been under pressure in the GLP-1 space since dulaglutide launch
A clear strategy in place to outperform competition with a novel product portfolio and the Market Fit approach

- **Insulin**: Expand leadership with Xultophy® and continued strong uptake of Ryzodeg®
- **GLP-1**: Accelerate class expansion and regain market share by launching Ozempic® and Rybelsus®
- **Obesity**: Establish obesity as a disease area that requires medical intervention and prepare for semaglutide obesity
- **Biopharm**: Strengthen haemophilia position with full portfolio and leverage GHD leadership to launch somapacitan upon approval
Several exciting launches in Japan & Korea are expected to drive growth in the short- to medium-term.
Launching Rybelsus® in Japan is expected to significantly expand Novo Nordisk’s competitiveness.

The Japanese diabetes market is dominated by OADs.

- Approximately 80% of people in Japan treated with diabetes medication are on OADs.

Strong results in the PIONEER trials including Japanese patients:

- HbA1c change from baseline at week 78 in PIONEER 3:
  - Rybelsus® 3 mg: -0.3%
  - Rybelsus® 7 mg: -0.7%
  - Rybelsus® 14 mg: -1.1%
  - Sitagliptin 100 mg: -0.4%

Rybelsus® is expected to be launched in Japan with a partner to expand reach.

- Patients with HbA1c > 7% treated by doctors that Novo Nordisk does not visit:
  - 33%

- Patients with HbA1c > 7% treated by doctors that Novo Nordisk visit:
  - 67%
Strong life-cycle management of Norditropin® has made it the single-largest Novo Nordisk sales brand in Japan.
A clear strategy in place to outperform competition with a novel product portfolio and the Market Fit approach

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial innovation</td>
<td>Improve the quality of care patients receive by developing and offering digital health solutions</td>
</tr>
<tr>
<td>Unmet medical needs</td>
<td>Bring innovative new drugs to people living with chronic diseases and unmet medical needs</td>
</tr>
<tr>
<td>Patient health &amp; Social contribution</td>
<td>Establish more public-private partnerships to generate benefits to the Japanese society</td>
</tr>
<tr>
<td>People &amp; organisation</td>
<td>Transform Novo Nordisk Japan into a ‘world-class organisation’ and a leading employer in Japan</td>
</tr>
</tbody>
</table>
Positive experiences on leveraging external partnerships leading to win-win situations

Koriyama City Partnership

Chairmanship of EFPIA Japan has led to a constructive dialogue on how to reward innovation in the Japanese pricing policy

A novel public-private partnership between Koriyama city, Fukushima medical university and Novo Nordisk Japan has generated valuable insights on social, cultural and environmental factors influencing treatment outcomes that can now be addressed.
Closing remarks

~50% of IO sales comes from Region Europe and Region Japan & Korea so it is pivotal to succeed in these regions.

New product launches and sharpened execution are expected to drive continued growth in Region Europe and Region Japan & Korea.

Clear regional strategies are in place to outperform competition and continue to develop the organisations.
Sources, notes and abbreviations – Region Europe and Region Japan & Korea

- **Slide 127 and 128**: First nine months, CER: constant exchange rates
- **Slide 129**: Source: IQVIA million DKK MAT, September 2019
- **Slide 130**: Source: OECD, based on EU28, 2018
- **Slide 131**: Source: IQVIA million DKK 3-month rolling, September 2019
- **Slide 132**: Source: IQVIA million DKK 3-month rolling, September 2019
- **Slide 133 and 134**: First nine months, CER: constant exchange rates
- **Slide 138**: Source: IQVIA million DKK MAT, September 2019
- **Slide 140**: Note: brand name "Rybelsus” is subject to local regulatory review and approval, not yet approved in Japan; New launches constitute showed launches; Older products constitute all other NN products
- **Slide 141**: Source: IQVIA million DKK MAT, September 2019; *Statistically significant in favour of oral semaglutide compared with sitagliptin at a 5% significance level; Rosenstock J, et al. JAMA 2019;321:1466–80; PIONEER 3 included 207 Japanese patients; sema: Semaglutide
- **Slide 142**: Internal sales reports at CER; IQVIA million DKK MAT, September 2019
Region Europe: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

Diabetes market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
Region Europe: Insulin market size and volume share of growth and market share

**Insulin market share and market size (DKK billion)**

- **Total**: Novo Nordisk 46%, Competitors 29.7
- **Basal**: Novo Nordisk 37%, Competitors 14.6
- **Bolus**: Novo Nordisk 54%, Competitors 46%, Market 9.4
- **Premix**: Novo Nordisk 2.4
- **Human**: Novo Nordisk 3.3

**Market growth**

- Total: 2%
- Basal: 6%
- Bolus: 3%
- Premix: 8%
- Human: -9%

**Δ Market share**

- Total: +0.6%
- Basal: +1.5%
- Bolus: +0.6%
- Premix: +1.0%
- Human: -0.7%

**Insulin volume: Share of growth and market share**

Source: IQVIA, Sep 2019, LHS graph – Value, RHS Graph - Volume, MAT, all countries
Region Europe: GLP-1 market share and market growth

**GLP-1 market growth and Novo Nordisk market share**

- **NN share of growth**
  - Sep 2016: 68%
  - Sep 2018: 53%
  - Sep 2019: 44%

- **NN market share**
  - Sep 2016: 22%
  - Sep 2018: 22%

**GLP-1 market size and growth**

- **NN growth**
  - Sep 2018: 7.5 DKK billion
  - Sep 2019: 9.6 DKK billion

- **Lilly**
  - Sep 2018: 0.9 DKK billion
  - Sep 2019: 1.3 DKK billion

- **Others**
  - Sep 2018: -0.2 DKK billion

Source: IQVIA, September 2019, Value, MAT, all countries
Region Europe: Obesity market share and market growth

**Obesity market growth and Novo Nordisk market share**

- **NN market share**
  - Sep 2016: 4%
  - Sep 2019: 47%
- **Market growth (right axis)**
  - Sep 2016: 26%
  - Sep 2019: 50%

**Obesity market size and growth**

- **DKK billion**
  - Sep 2018: 0.3
  - Sep 2019: 0.4
- **Saxenda®**
  - Sep 2018: 0.1
- **Others**
  - Sep 2018: 0.2
- **Market share**
  - Sep 2018: ~39%
  - Sep 2019: ~26%

Source: IQVIA, Sep 2019, Value, MAT, all countries
Region Japan & Korea: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

Diabetes market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries; Share of growth not depicted due to too high numbers
Region Japan & Korea: Insulin market size and volume share of growth and market share

### Insulin market share and market size (DKK billion)

<table>
<thead>
<tr>
<th>Type</th>
<th>Market share</th>
<th>Market size (DKK billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>57%</td>
<td>4.2</td>
</tr>
<tr>
<td>Basal</td>
<td>48%</td>
<td>1.7</td>
</tr>
<tr>
<td>Bolus</td>
<td>54%</td>
<td>1.3</td>
</tr>
<tr>
<td>Premix</td>
<td>80%</td>
<td>0.8</td>
</tr>
<tr>
<td>Human</td>
<td>64%</td>
<td>0.3</td>
</tr>
</tbody>
</table>

### Market growth and Δ Market share

- Total: 2% growth, +0.5% Δ market share
- Basal: 15% growth, +0.7% Δ market share
- Bolus: -6% growth, -1.0% Δ market share
- Premix: 3% growth, +4.1% Δ market share
- Human: 2% growth, +0.5% Δ market share

### Insulin volume: Share of growth and market share

- NN market share: 50% in Sep 2016, 51% in Sep 2019
- NN growth (right axis)
- Market growth (right axis)

Source: IQVIA, Sep 2019, LHS graph – Value, RHS Graph - Volume, MAT, all countries; Share of growth not depicted due to too high numbers.
Region Japan & Korea: GLP-1 market share and market growth

GLP-1 market growth and Novo Nordisk market share

Source: IQVIA, September 2019, Value, MAT, all countries

GLP-1 market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
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.

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Important drug information

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- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
China is the second biggest pharma market globally, with high unmet needs.

**2nd Largest pharmaceutical market globally**

- **CN**: 6.1%
- **US**: 2.4%
- **EU**: 1.5%
- **JP**: 0.9%

**Sustained solid GDP growth and increasing disposable income**

- **Diabetes population**: 121mn
- **Diagnosed**: 56mn
- **Treated**: 39mn
- **Achieve targets**: 19mn

**Significant diversity and complexity across provinces**

- **Beijing**: USD 21,000 GDP per capital, 4.6 doctors per patient
- **Xinjiang**: USD 7,400 GDP per capital, 2.6 doctors per patient

**Large unmet needs in diabetes**
Health is at the centre of government policy, creating a positive environment for sustainable growth

Capitalising on opportunities provided by positive changes in policy and regulatory environment

- **Healthy China Action 2019-2030**
  - Diabetes prevention and control among 15 projects, with specific goals:
    - Diabetes awareness rate (from baseline 36% to 50% in 2022)
    - Diabetes standard management rate (from baseline 50% to 60% in 2022)

Accelerated approvals

- **Time to approval**:
  - Time: ~14 yrs, ~12 yrs, ~6 yrs, ~2 yrs

Reimbursement

- **Updates to NRDL**:

Responding to challenges by mitigating risks and managing issues as they become certain

- **Cost containment**
  - Volume-based purchasing
  - Price erosion (bidding)

- **Competition**
  - 15 local insulin manufacturers comprising 33% of the market
  - 20+ local biosimilars launches by 2023

Diabetes prevention and control among 15 projects, with specific goals:
- Diabetes awareness rate (from baseline 36% to 50% in 2022)
- Diabetes standard management rate (from baseline 50% to 60% in 2022)
Novo Nordisk has a strong presence and a clear strategy to continue growth and leadership in Region China.

Celebrating 25 years of success in Region China
~7 million patients treated in 2019\(^1\)

**WIN\(^+\)2025** strategy to become the trusted partner in diabetes, enabling 60 million patients treated by 2025\(^1\)

Novo Nordisk Annual sales and share of growth per product group

<table>
<thead>
<tr>
<th>Year</th>
<th>Obesity</th>
<th>GLP-1</th>
<th>HI</th>
<th>OAD</th>
<th>MI+NGI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
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<td>2018</td>
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</tr>
<tr>
<td>2019</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Maximise portfolio**
- **Drive commercial excellence**
- **Shape market**
- **Accelerate innovation**
The diabetes market continues its dynamic growth with insulin remaining as the core segment.

**Region China diabetes market by product class**

<table>
<thead>
<tr>
<th>Year</th>
<th>DKK billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>10</td>
</tr>
<tr>
<td>2017</td>
<td>12</td>
</tr>
<tr>
<td>2018</td>
<td>15</td>
</tr>
<tr>
<td>2019</td>
<td>20</td>
</tr>
</tbody>
</table>

**Product class dynamics highlight opportunities**

- **Insulin**
  - Modern-insulin and new-generation insulin continue to grow
  - Human insulin challenged by conversion to modern insulin

- **Modern non-insulin anti-diabetic**
  - Emerging segment, driven by reimbursement and new entrants

- **Oral anti-diabetic**
  - Price pressures with exposure to volume-based purchasing
Sustaining leadership in insulin is achieved by winning in all three modern and new-generation insulin segments.

### Insulin segment size and market share (DKK bn)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Market Share (%)</th>
<th>Size (bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>47%</td>
<td>9.5</td>
</tr>
<tr>
<td>Basal</td>
<td>15%</td>
<td>3.5</td>
</tr>
<tr>
<td>Premix</td>
<td>77%</td>
<td>2.5</td>
</tr>
<tr>
<td>Bolus</td>
<td>80%</td>
<td>1.1</td>
</tr>
<tr>
<td>Human</td>
<td>46%</td>
<td>2.3</td>
</tr>
</tbody>
</table>

#### Win in all three insulin segments through commercial excellence

- **Total**
  - Segment growth: 12%
  - Δ NN market share 2019 vs. 2018: -1.3%

- **Basal**
  - Segment growth: 17%
  - Δ NN market share 2019 vs. 2018: 0.4%

- **Premix**
  - Segment growth: 7%
  - Δ NN market share 2019 vs. 2018: -1.2%

- **Bolus**
  - Segment growth: 17%
  - Δ NN market share 2019 vs. 2018: -0.1%

- **Human**
  - Segment growth: 3%
  - Δ NN market share 2019 vs. 2018: -3.3%

### Gain basal insulin market share with dedicated sales force

- **Tresiba®**

### Strengthen premix

- **Ryzodeg®**

---

Competitors

---

Novo Nordisk
Acceleration of the GLP-1 franchise is driven by Victoza® and is expected to expand with semaglutide.

**Strong market share and growth with Victoza®**

CAGR: 41%

- Increasing GLP-1 competition from new entrants into NRDL
- Dedicated sales organisation to focus on GLP-1

**Increasing competition but strong upcoming portfolio and tactics in place**

**GLP-1 penetration levels across Novo Nordisk regions**

- Ozempic® launched
- Updated treatment guidelines
- LEADER results
- Dulaglutide launched
- 1st weekly GLP-1 launched
- Victoza® launched

GLP-1 value of total diabetes by region:

- Region China: 2%
- Region AAMEO: 3%
- Region LATAM: 7%
- Region J&K: 7%
- Region Europe: 13%
- NAO: 21%
Strengthening Biopharm’s footprint and building the obesity market is expected to diversify future business.

While only representing ~2% of China sales, Biopharm holds strong growth potential.

Obesity is a growing problem in China but market development is needed.

Government advocates individuals pay attention to their weight in Healthy China 2030 Action Plan.

~124mn people with obesity

Graph showing growth in sales from 2016 to 2019:
- 2016: 150 million DKK
- 2017: 175 million DKK (+27%)
- 2018: 190 million DKK
- 2019: 250 million DKK (+56%)

Legend:
- Orange: Haemophilia
- Yellow: Growth hormone
Novo Nordisk supports building the ecosystem to enable early diagnosis, proper treatment, and better control

- **Drive early diagnosis**
  - BlueCare
    - Through screening
    - 2016-current
    - 640,000 patients
    - 280,000 high-risk

- **Build infrastructure**
  - BlueCounty
    - Build endocrinology depts in country hospitals
    - 2017-current
    - 947 hospitals
    - 897 counties

- **Build capability**
  - BlueGP
    - Build GP capabilities through training
    - 2017-current
    - 45 cities
    - 2,200 GPs

- **Improve adherence**
  - BlueConnect
    - App-based platform to connect HCPs and patients
    - 2018-current
    - 18,700 patients
The future promises to deliver a more innovative and more diversified portfolio.

Novo Nordisk Portfolio

- Actraphane
- Actrapid
- GlucaGen®
- Insulatard
- Mixtard
- NovoLin
- NovoMix
- NovoNorm
- NovoRapid
- Flasp
- Victoza
- RYBELSUS
- LAI287

2019 Product Portfolio

- Actraphane
- Actrapid
- GlucaGen®
- Insulatard
- Mixtard
- NovoLin
- NovoMix
- Victoza
- RYBELSUS

Less innovative

Less diversified
The future promises to deliver a more innovative and more diversified portfolio.

Novo Nordisk Portfolio

- Actraphane
- Actrapid
- GlucaGen
- Insulatard
- Mixtard
- NovoLin
- NovoMix
- NovoNorm
- NovoRapid
- Fiasp

Future Product Portfolio

- Actraphane
- Actrapid
- GlucaGen
- Insulatard
- Mixtard
- NovoLin
- Levomir
- RVZODEG
- TRESIBA
- Victoza
- NovoNorm
- Norditropin
- NovoSeven
- Xultophy
- OZEMPIC
- Novoeight
- SemaObesity
- LAI287

More innovative

More diversified
Closing Remarks

The pharma market in Region China continues to grow and Novo Nordisk is well-positioned to capitalise.

Novo Nordisk has a holistic strategy to drive sustainable growth in Region China in the long-term.

Novo Nordisk focuses on maximising the portfolio and driving growth in all major segments beyond insulins and beyond diabetes.

Novo Nordisk remains a trusted partner, working with stakeholders to change diabetes and other serious chronic diseases.
**Sources, Notes and Abbreviations – Region China**

- **Slide 156**: Sources: GDP growth, IMF table for 2019 real GDP projection, [https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/CHN/DNK](https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/CHN/DNK); 2018 GDP per capita in USD, National Bureau of Statistics of China. April 1, 2019; the average exchange rate in 2018 is CNY 6.6174 per USD; Doctor per 1000, Regional macro economy data, [http://calendar.hexun.com/area/](http://calendar.hexun.com/area/), country summary table (18-99 years). 2017

- **Slide 157**: ¹ Time from CTA submission to approval; source: DXY insight database; ² Currently only 1 data point for biologic import product; ³ Opened for oncology products only

- **Slide 158**: ¹ Number for mainland China only; ² First nine months, 2019; source: Company reported numbers; OAD: Oral anti-diabetic; MI: Modern insulin; NGI: New-generation insulin

- **Slide 159**: ¹ 3-year CAGR; ² Year-to-date; Note: Modern non-insulin anti-diabetic (MNIAD) includes GLP-1, DPP-IV, and SGLT-2; source: IQVIA, MAT, Sep 2019, IQVIA covers around 50% of the total Chinese market (hospital data); OAD: Oral anti-diabetic; MNIAD: Modern non-insulin anti-diabetic; HI: Human insulin; MI: Modern insulin; NGI: New-generation insulin

- **Slide 160**: Source: IQVIA, MAT, Sep 2019; IQVIA covers around 50% of the total Chinese market (hospital data)

- **Slide 161**: ¹ 3-year CAGR; Source: IQVIA, MAT, Sep 2019; IQVIA covers around 50% of the total Chinese market (hospital data)

- **Slide 162**: ¹ First 9 months, 2019; ² Obesity as defined by Chinese standard = BMI>28; number is for adults only; source: Nutrition and Chronic Diseases of Chinese Resident in 2012 (published in 2015), see also Healthy China Action (2019-2030)

- **Slide 164**: ¹ Innovative products: Product with a compound or formulation patent; Diversified means products other than insulin

- **Slide 165**: ¹ Innovative products: Product with a compound or formulation patent; Diversified means products other than insulin
Region China: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

Source: IQVIA, September 2019, Value, MAT, all countries
Region China: Insulin market size and volume share of growth and market share

**Insulin market share and market size (DKK billion)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Market Share (%)</th>
<th>Market Size (DKK billion)</th>
<th>Market growth (%)</th>
<th>Δ Market share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>47%</td>
<td>9.5</td>
<td>12%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Basal</td>
<td>15%</td>
<td>3.5</td>
<td>17%</td>
<td>+0.4%</td>
</tr>
<tr>
<td>Bolus</td>
<td>80%</td>
<td>1.1</td>
<td>17%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Premix</td>
<td>77%</td>
<td>2.5</td>
<td>7%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Human</td>
<td>46%</td>
<td>2.3</td>
<td>3%</td>
<td>-3.3%</td>
</tr>
</tbody>
</table>

**Insulin volume: Share of growth and market share**

- **NN share of growth**
- **NN growth (right axis)**
- **NN market share**
- **Market growth (right axis)**

Source: IQVIA, Sep 2019, LHS graph – Value, RHS Graph - Volume, MAT, all countries
Region China: GLP-1 market share and market growth

**GLP-1 market growth and Novo Nordisk market share**

- **Sep 2016**: NN market share 53%
- **Sep 2019**: NN market share 82%
- **Sep 2018**: Market growth 101%
- **Sep 2019**: Market growth 93%

**GLP-1 market size and growth**

- **Sep 2018**: Novo Nordisk 0.2, AstraZeneca 84.0%, Others 0.0, Competitors 0.4
- **Sep 2019**: Novo Nordisk 0.2, AstraZeneca 0.0, Others 0.4, Competitors 92.6%

Source: IQVIA, September 2019, Value, MAT, all countries; Share of growth not depicted due to too high numbers
REGION AAMEO AND REGION LATIN AMERICA
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:

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- 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.

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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.

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### Important drug information

- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found on the last page.
In Region AAMEO and Region Latin America, the unmet need is large and therefore multiple business opportunities exist.

Covers most countries in the world

110 countries in AAMEO and 33 in Latin America
73% of all countries in the world

Covers most people with diabetes

250 million people living with diabetes
53% of the total diabetic population
110 million are undiagnosed

Covers most people with obesity

450 million people living with obesity
69% of the total obese population
Only 1-2% receive medical treatment

Economic outlook

4.1% GDP growth expected in 2019
+0.9%-p higher GDP growth in 2019 than global economy

High volatility and uncertainties

High political uncertainty in many countries
High volatility currencies
Sales growth has accelerated by restructuring the organisation, the Market Fit approach and innovation.

Sales growth acceleration in region AAMEO is driven by insulin and obesity.

The GROW AAMEO strategy focuses on three areas, which should support in sustaining a higher growth momentum.

- Expand the patient base
- Continue biopharm growth
- Expand insulin leadership
- Re-invent GLP-1
- Build the obesity market

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2018</th>
<th>2019E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of growth</td>
<td>9% 21% 60%</td>
<td>12% 12% 60%</td>
<td>~13% 21% 43%</td>
</tr>
</tbody>
</table>

- GLP-1
- Obesity
- Biopharm
- Insulin

Annual growth rate

YTD 2019
Insulin market expansion driven by an unmet need, commercial execution and innovation

<table>
<thead>
<tr>
<th>Insulin market share and market size (DKK billion)</th>
<th>Market growth</th>
<th>Δ Market share¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>7%</td>
<td>+1.5%</td>
</tr>
<tr>
<td><strong>Basal</strong></td>
<td>5%</td>
<td>+2.2%</td>
</tr>
<tr>
<td><strong>Bolus</strong></td>
<td>6%</td>
<td>+1.4%</td>
</tr>
<tr>
<td><strong>Premix</strong></td>
<td>9%</td>
<td>+4.8%</td>
</tr>
<tr>
<td><strong>Human</strong></td>
<td>7%</td>
<td>-2.1%</td>
</tr>
</tbody>
</table>

**Commercial focus**

- Continue to expand the insulin market and ensure device penetration
- Gain market share in basal insulin with Tresiba® and Xultophy®
- Continue to drive innovation with 30 launches of new-generation insulin planned in the next two years
GLP-1 remains underutilised but Ozempic® is expected to drive growth

The GLP-1 market is 3% of the total diabetes market

GLP-1 market has grown by 27% yearly from a small baseline

CAGR value growth: 27%

GLP-1 opportunities

- GLP-1 organisation has been strengthened across Region AAMEO with dedicated GLP-1 teams and sales force
- Ozempic® to drive GLP-1 market expansion with around 20 launches planned the next two years
- The GLP-1 aspiration in Region AAMEO is to double sales in the next three years
The obesity market is expanding driven by high prevalence and penetration of Saxenda®

**Obesity prevalence is high in Region AAMEO**

- 350 million people living with obesity in Region AAMEO
- 53% of the total obese population resides in Region AAMEO

**Sales and number of launch countries have increased**

- 17% market growth and currently 44% market share
- Saxenda® has been launched in 18 markets covering the majority of the obesity market in Region AAMEO

**Strong Saxenda® growth is expected to continue**

- Obesity investments have doubled both financially and in terms of employees
- Market building activities focus on medical education supporting expansion of prescriber base and public dialogue advocacy
- The obesity sales are expected to more than double over the next three years driven by market expansion and new launches
Patients’ access to treatment is an integral part of doing business in emerging markets.

The Changing Diabetes® in Children programme ensures care and life-saving medicine for children with type 1 diabetes in low- and middle-income countries.

The Base of the Pyramid project aims to form public–private partnerships to improve access to diabetes care in low- and middle-income countries.

14 countries with Changing Diabetes® in Children projects
- 20,000 type 1 diabetes children actively enrolled
- Donation of human insulin to patients up to 21 years old
- Training of healthcare professionals to improve treatment of type 1 diabetes

5 countries with Base of Pyramid projects
- 40,000 patients receive care via Base of Pyramid facilities
- Affordable quality diabetes care made accessible
- Partner with Ministries of Health

Supported by Affordable Insulin Commitment efforts
Region Latin America
Acceleration of sales growth in Region Latin America is driven by innovation and the Market Fit approach.

Sales acceleration in Region Latin America is driven by GLP-1 in diabetes and obesity as well as insulin.

The strategy in Region Latin America focuses on creating a sustainable strong growth platform.

![Chart showing sales growth acceleration in Region Latin America](chart.png)

**Yearly Growth Rates (%)**
- 2014: +10%
- 2018: 4%
- 2019E: >20%

**YTD 2019 Share of Growth**
- Human insulin: 19%
- GLP-1: 30%
- MI & NGI insulin: 31%
- Biopharm: 18%

Legend:
- **Human insulin**
- **GLP-1**
- **Biopharm**
- **MI & NGI insulin**
- **Obesity**
- **Annual growth rate**
Novo Nordisk continues to engage stakeholders to support a sustainable business and improve quality of care

Maintain employee engagement: Best place to work

- #1 pharma employer in Brazil, Mexico and Argentina

Engage stakeholders: Strategic public partnerships

- Four cities enrolled in Cities Changing Diabetes\(^1\)
- Engaging public health organisations to promote and increase disease awareness for obesity and diabetes

UNICEF partnership to prevent childhood overweight and obesity

- Working together to prevent childhood overweight and obesity
- In-country interventions in Mexico and Colombia
Novo Nordisk remains well-positioned in a growing insulin market with basal insulin leadership.

Value growth within insulin remains high and NN expands leadership.

Basal insulin is the largest segment and Novo Nordisk is the market leader.

Driving differentiation to outperform competition for human insulin.

Market size - Basal: 75%, Short-acting: 16%, Premix: 9%, Others: 17%.

Market share - Novo Nordisk: 44%, Sanofi: 39%, Others: 17%.

Market growth and NN market share comparison:
- Sep 2016: NN growth 43%, NN market share 9%.
- Sep 2019: NN growth 47%, NN market share 13%.

Human insulin device % - volume: 2016 - 5%, 2019 - 18%.

Human insulin device % - value: 2016 - 11%, 2019 - 37%.
Novo Nordisk focuses on increasing GLP-1 leadership by expanding offerings with superior clinical benefits.
The Saxenda® adoption in Latin America is supported by commitment to ensure awareness of obesity.

~100 million with obesity and ~30% of Saxenda® patients live in Latin America.

Sales supported by market building activities:

- 2016: 57
- 2017: 277
- 2018: 410
- 2019E: 600-650

Continue launch sequence of Saxenda® across Latin America:

Coverage of Saxenda®:

- >80%¹

Region Latin America vs Rest of world

Sales (DKK million)

Launched
Pipeline 2020
Closing remarks

Very large unmet need in both regions

Insulin leadership expected to be sustained and insulin remains a key growth driver driven by demographics, strong commercial execution and innovation

GLP-1 is a key growth driver in Region Latin America and is a key opportunity in Region AAMEO. Ozempic® and Rybelsus® are expected to drive an GLP-1 market expansion

Obesity sales growth remains strong and market development activities are progressing
Sources, notes and abbreviations – Region AAMEO and Region Latin America

- **Slide 173**: Source GDP growth: International Monetary fund world economic outlook, Jul 2019, outlook for emerging markets & developing economies
- **Slide 174**: Source: Reported sales figures in constant exchange rates. 2019 based on expected sales growth for the FY2019, Note: Share of growth does not add up top 100% due to rounding’s
- **Slide 175**: Source: IQVIA MAT, SPOT, Sep 2019, IQVIA only covers 10 countries in AAMEO covering around 60% of the total market. 1 market share vs. MAT Sep 2018
- **Slide 176**: Source: IQVIA MAT, SPOT, Sep 2019, IQVIA only covers 10 countries in AAMEO covering around 60% of the total market.
- **Slide 177**: Source: IQVIA MAT, SPOT, Sep 2019, IQVIA only covers AUS, RUS, KSA, TUR and UAE
- **Slide 180**: Source: Reported sales figures in constant exchange rates. 2019 based on expected sales growth for the FY2019, Note: Share of growth does not add up top 100% due to rounding’s
- **Slide 181**: Cities changing diabetes covers: Bogota, Buenos Aires, Mexico City and Mérida
- **Slide 182**: Source: IQVIA covers the following 4 markets in Latin America (retail data): Argentina, Brazil, Colombia and Mexico, MAT, SPOT rate, Sep 2019
- **Slide 183**: Source: IQVIA covers the following 4 markets in Latin America (retail data): Argentina, Brazil, Colombia and Mexico, MAT, SPOT rate, Sep 2019. Future expected coverage of Ozempic® expected in 2-3 years relative to number of people with Diabetes in Region Latin America (based on the IDF diabetes atlas, 2017)
- **Slide 184**: Source: Novo Nordisk ex-factory – patients assumptions: 3 mg/day, 360 days per year. Coverage of Saxenda® relative to number of people with obesity in Region Latin America
Region AAMEO: Diabetes market share and market growth

### Diabetes market growth and Novo Nordisk market share

Source: IQVIA, September 2019, Value, MAT, all countries

### Diabetes market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
Region AAMEO: Insulin market size and volume share of growth and market share

**Insulin market share and market size (DKK billion)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Novo Nordisk</th>
<th>Competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>51%</td>
<td></td>
</tr>
<tr>
<td>Basal</td>
<td>25%</td>
<td>4</td>
</tr>
<tr>
<td>Bolus</td>
<td>66%</td>
<td>2</td>
</tr>
<tr>
<td>Premix</td>
<td>80%</td>
<td>2</td>
</tr>
<tr>
<td>Human</td>
<td>54%</td>
<td>2</td>
</tr>
</tbody>
</table>

**Market growth**

- Total: 7% growth, +1.5% market share
- Basal: 5% growth, +2.2% market share
- Bolus: 6% growth, +1.4% market share
- Premix: 9% growth, +4.8% market share
- Human: 7% growth, -2.1% market share

**Insulin volume: Share of growth and market share**

- NN market share: 50% in Sep 2016, 46% in Sep 2019
- NN growth (right axis): 20% in Sep 2016, 15% in Sep 2019
- Market growth (right axis): 10% in Sep 2016, 5% in Sep 2019

Source: IQVIA, Sep 2019, LHS graph - Value, RHS Graph - Volume, MAT, all countries; Share of growth not depicted due to too high numbers
Region AAMEO: GLP-1 market share and market growth

Source: IQVIA, September 2019, Value, MAT, all countries
Region AAMEO: Obesity market share and market growth

**Obesity market growth and Novo Nordisk market share**

Source: IQVIA, Sep 2019, Value, MAT, all countries

**Obesity market size and growth**

Source: IQVIA, Sep 2019, Value, MAT, all countries
Region Latin America: Diabetes market share and market growth

**Diabetes market growth and Novo Nordisk market share**

- **NN market share**
- **Market growth**
- **NN growth**

**Diabetes market size and growth**

- Sectors: Novo Nordisk, Boehringer Ingelheim, Others
- Percentages: 16.1%, 0.3%, 0.2%, 0.3% for Novo Nordisk, Boehringer Ingelheim, Others, respectively
- Total: 11.5 billion DKK

Source: IQVIA, September 2019, Value, MAT, all countries; Share of growth not depicted due to too high numbers
Region Latin America: Insulin market size and volume share of growth and market share

**Insulin market share and market size (DKK billion)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Novo Nordisk</th>
<th>Competitors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basal</td>
<td>38%</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Bolus</td>
<td>58%</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Premix</td>
<td>45%</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>58%</td>
<td>0.9</td>
<td></td>
</tr>
</tbody>
</table>

**Market growth**

- Total: 8% increase
- Basal: 10% increase
- Bolus: 11% increase
- Premix: 0% increase
- Human: 6% increase

**Δ Market share**

- Total: +2.1%
- Basal: +0.2%
- Bolus: -0.2%
- Premix: -0.7%
- Human: +7.8%

Source: IQVIA, Sep 2019, LHS graph – Value, RHS Graph - Volume, MAT, all countries; Share of growth not depicted due to too high numbers
Region Latin America: GLP-1 market share and market growth

GLP-1 market growth and Novo Nordisk market share

GLP-1 market size and growth

Source: IQVIA, September 2019, Value, MAT, all countries
Region Latin America: Obesity market share and market growth

**Obesity market growth and Novo Nordisk market share**

- Market growth (right axis)
- NN market share
- Market growth (right axis)

**Obesity market size and growth**

- DKK billion
- Saxenda®
- Others
- Sep 2018
- 2.0
- 0.2
- 2.2
- Sep 2019
- 24%
- ~52%
- 33%

**Source:** IQVIA, Sep 2019, Value, MAT, all countries
EMERGING THERAPIES

NADIA SADI
Nadia lives with NASH
Denmark
Forward-looking statements

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Important drug information

- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
The future of R&D is to focus on increasing the number of clinical assets while maintaining industry-leading late-stage success.

R&D investments will expand beyond historic focus.

Increased clinical assets driving R&D investment.

Industry-leading success rate\(^1\) from any phase to market.
The increase in pipeline assets is driven by semaglutide as well as internal and external innovation.
Collaboration with partners facilitates accelerated breakthrough science

- Novel treatments for metabolic disease
- Oral Devices for protein and peptide drug delivery
- Gene editing treatment for haemophilia
- Small-molecule drug discovery and development
- siRNA treatments

- Combination treatments for NASH
- Improving Beta Cell health
- Glucose responsive insulin
- Novel treatments for CVD
- Sickle Cell Disease

- Selected partnerships over the past 2 years
- Gut-Brain-Axis target discovery for metabolic disease
- Small molecule for treatment of NASH
- Stem cell lines
- Parkinson’s disease

- KALLYOPE
- EMBARK BIOTECH
- MIT
- bluebird bio
- evotec
- Dicerna
- GILEAD
- reMYND
- ziylo
- Carbometrics
- STATEN BIOTECHNOLOGY
- EpiDestiny
- UCSF
- BioLamina
- LUND UNIVERSITY
- novo nordisk
Collaboration with partners facilitates accelerated breakthrough science

- siRNA treatments
- Combination treatments for NASH
- Novel treatments for CVD
- Stem cell lines
Novo Nordisk and Dicerna partner in the small interfering RNA drug modality space

**Maintain competitive edge through new drug modality**

- **Current Novo Nordisk drug platform** focus on proteins and peptides with targets on the surface of cells
- ~90% of molecular targets in T2D are intracellular
- siRNA allows for efficient and specific gene silencing
- Previously inaccessible drug targets, undruggable by small molecules, proteins and peptides

**Dicerna’s GalXC™ RNAi technology platform**

- Proprietary, patented RNAi technology
- Hepatocyte-selective targeting
- Subcutaneous route of delivery
- Well tolerated and long duration of action
- High target specificity predictable activity
- High therapeutic index broad applicability
NASH is a progressive disease with no existing treatment and low diagnosis rates today.

From 2020 to 2030 the number of treated patients is expected to increase from 0.2 million to 1.7 million.

Focus: Drive translational focus on non-invasive diagnostics and predictive and prognostic biomarkers via partnerships.
The collaboration with Gilead aims to bring therapies to people living with NASH

Gilead possess complementary skillsets

- Leader in hepatology and combination therapy
- Deep understanding of liver disease treatment
- Has established key opinion leader relationships in hepatology

Semaglutide in NASH

- Clinical programme – 3 trials
  - Primary endpoints include:
    - NASH resolution without worsening of fibrosis
    - Mean change in liver stiffness measured by MRE
    - ~450 patients enrolled
  - Phase 2 results expected in H1 2020

Novo Nordisk and Gilead clinical collaboration

- Clinical programme
  - Gilead’s two oral small molecule assets in loose combination with semaglutide
  - Phase 2 results expected in 2020
Cardiovascular disease is associated with increased mortality

**Key facts**
- CVD is the number one cause of death globally
- Of these CVD deaths, 85% are due to heart attacks and strokes

**ATHEROSCLEROSIS**
- 70% of diabetes patients die from atherosclerotic CVD

**HEART FAILURE**
- 40% of patients who are hospitalised for heart failure have diabetes

**CVD**
- \(~18\) million people die each year from cardiovascular disease, an estimated 31% of all deaths globally
Novo Nordisk is addressing the significant unmet need in CVD via internal and external innovation

**Semaglutide paves the way for entering CVD**

**SUSTAIN 6**
Semaglutide
26% cardiovascular risk reduction

**PIONEER 6**
Oral semaglutide
21% cardiovascular risk reduction

**SOUL**
Oral semaglutide
9,642 people with type 2 diabetes

**Unique PCSK9i mimetic peptide approach**

- Increasing LDL receptor levels and efficiently decreasing LDL-cholesterol

**Novo Nordisk and Staten exclusive option agreement**

- Novel anti-ApoC-III antibody for dyslipidaemia management
- Phase 1 results expected H1 2020
  Includes lipid lowering measurements
The stem cell platform is expected to solve unmet needs for people with serious chronic diseases

- **Parkinson’s disease**
  Collaboration with Lund University and partnership with Biolamina

- **Chronic kidney disease**
  Partnership with Mayo Clinic

- **Chronic heart failure**
  Partnership with Biolamina

- **Type 1 diabetes**
  Encapsulation device in collaboration with universities

- **Dry age-related macular degeneration**
  Partnership with Biolamina
20+ years of stem cell research experience facilitates entry into regenerative medicine

Realised with Novo Nordisk’s comprehensive stem cell capabilities

- GMP-grade production capability in US facility utilising Novo Nordisk’s core CMC capabilities
- IP positions on differentiation protocols
- Ethical stem cell practices
- Academic collaborations with stem cell technology experts
- Multiple programs and growing pipeline
<table>
<thead>
<tr>
<th>Phase 1 results</th>
<th>Phase 2 results</th>
<th>Phase 3 results</th>
<th>Other serious chronic diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes</strong></td>
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<tr>
<td>Xuultophy®</td>
<td>Phase 1 results</td>
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<td>LAI287</td>
<td>Phase 1 results</td>
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<td>LAISema</td>
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<td>Insulin965</td>
<td>Phase 1 results</td>
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<td>Ozempic®</td>
<td>Phase 1 results</td>
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<td>Rybelsus®</td>
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<td>Sema+OW GIP</td>
<td>Phase 1 results</td>
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<td>Semaglutide</td>
<td>Phase 2 results</td>
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<td>AM833</td>
<td>Phase 2 results</td>
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<td>AM833-Sema 2.4</td>
<td>Phase 1 results</td>
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<td>PYY1562/1875</td>
<td>Phase 1 results</td>
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<td>Tri-agonist 1706</td>
<td>Phase 1 results</td>
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<td>GG-co-agonist</td>
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<td>LA-GDF15</td>
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<td>Esperoct®</td>
<td>Phase 2 results</td>
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<td>Concizumab</td>
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<td>Mim8</td>
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<td>EPI01</td>
<td>Phase 1 results</td>
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<td>Somapacitan (S)</td>
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<td>Somapacitan (D)</td>
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<td>SemaNASH</td>
<td>Phase 2 results</td>
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<td>Gilead NASH</td>
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<td>FGF21 NASH</td>
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<td>PCSK9i</td>
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<td>Phase 2 results</td>
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<td>Stem Cells</td>
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**Clinical milestones**

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

Further raise the innovation bar for diabetes treatment

Develop a leading portfolio of superior treatment solutions for obesity

Strengthen and progress the Biopharm pipeline

Establish presence in other serious chronic disease focusing on NASH, CVD and CKD
• **Slide 197**: Probabilities of success to market were calculated using substances entering phase between 2008 and 2014 and year of assessment 2017, source: CMR International, 2017; NASH: Non-alcoholic steatohepatitis; CVD: Cardiovascular disease; CKD: Chronic kidney disease

• **Slide 201**: siRNA: silencing RNA; RNA: Ribonucleic acid

• **Slide 202**: NASH prevalence numbers are based on internal literature review

• **Slide 203**: ACC: Acetyl-CoA carboxylase; FXR: Farnesoid X receptor; GLP-1: Glucagon-like peptide-1

• **Slide 204**: Source: WHO, 2016; World heart foundation.

• **Slide 205**: Not statistically significant; LDL: Low density lipoprotein, PCSK9i: Proprotein convertase subtilisin/kexin type 9 inhibitor

• **Slide 207**: GMP: Good manufacturing practice; IP: Intellectual property

• **Slide 208**: Expected to be published in the given quarter or in the subsequent quarterly company announcement; HBwI: Haemophilia B with inhibitors; GHD: Growth hormone deficiency; AGHD: Adult growth hormone deficiency; CV: Cardiovascular; PoC: Proof of Concept; NASH: Non-alcoholic steatohepatitis
Pipeline supports significant growth opportunities across all four strategic focus areas

### PHASE 1
- NN1535 – LAIsema
- NN1965 – FS1965
- NN9747 – PYY 1562 analogue
- NN9775 – PYY 1875 analogue
- NN9423 – Tri-agonist 1706
- NN9277 – GG-co-agonist
- NN9215 – LA-GDF15
- NN9838 – AM833 and Sema
- NN7533 – Eclipse
- NN9500 – FGF-21 NASH
- NN6434 – PCSK9i
- NN6177 – GG-co-agonist

### PHASE 2
- NN1436 – LAI287
- NN9828 – Anti-IL-21 and lira
- NN9838 – Amylin AM833
- EX20020 – Macilen, GHD
- NN9931 - Semaglutide NASH

### PHASE 3
- Semaglutide obesity
- Somapacitan – QW GHD
- Somapacitan – QW AGHD
- NN7417 - Concizumab

### SUBMITTED
- Somapacitan – QW AGHD

### APPROVED
- Tresiba®
- Xultophy®
- Levernir®
- Ryzodeg®
- NovoMix®
- Fiasp®
- NovoRapid®
- Victoza®
- Ozempic®
- Rybelsus®
- Saxenda®
- NovoSeven®
- NovoEight®
- NovoThirteen®
- Refixia®
- Esperoct® (N8-GP)
- Norditropin®

1. Study conducted in adult growth hormone disorder; 2. Study conducted in growth hormone disorders; 3. Approved in the USA; submitted in the EU, Japan, and Canada; 4. Study conducted in NASH; LAIsema: Long-acting insulin combined with semaglutide; FSI1965: A once daily insulin; PYY: Peptide YY; QQ: Once-weekly; GG: Glucagon GLP-1; GDF15: Growth differentiation factor 15; QD: Once-daily; Sema: Semaglutide; PoC: Proof of Concept; FGF-21: Fibroblast growth factor 21; LAI: Long-acting insulin; AGHD: Adult growth hormone disease; GHD: Growth hormone disorder; lira: Liraglutide
PRODUCT SUPPLY AND FINANCIALS
Forward-looking statements

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Important drug information
- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

Note: All notes, sources and abbreviations for this presentation are found in the appendix.
The mission for Product Supply is to be a strategic partner from R&D to commercial operations. Product Supply is today a strategic partner bridging R&D and Commercial operations. Product Supply is delivering increased agility and expanding possibilities within Novo Nordisk.
Global manufacturing setup strengthened with significant investments in the US and Denmark for diabetes and biopharm
Rybelsus® supply chain for the US and rest of world in place

Kalundborg, Denmark
- Production of API
  - Already in operation

Måløv, Denmark
- Tableting and packaging
  - Already in operation

Clayton, North Carolina, USA
- Production of API
  - Expected start operation in 2021

Durham, North Carolina, USA
- Tableting and packaging
  - Acquired in August 2019
Product Supply is ready to match business aspirations

Ready to deliver on future more complex demands and late-stage clinical trials

<table>
<thead>
<tr>
<th>Diabetes</th>
<th>Biopharm</th>
<th>Obesity</th>
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<tbody>
<tr>
<td>NovoRapid™</td>
<td>NovoSeven™</td>
<td>NovoRapid™</td>
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<tr>
<td>NovoMix²</td>
<td>Norditropin®</td>
<td>NovoRapid™</td>
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<tr>
<td>Levemir®</td>
<td>refixia</td>
<td>Somapacitan</td>
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<tr>
<td>Victozza®</td>
<td>esperoct®</td>
<td>Semaglutide obesity</td>
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<td>Tresiba®</td>
<td>Saxenda</td>
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<td>Ryzodeg®</td>
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<td>LAI287</td>
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Clinical trials

**CAPEX investments have peaked in 2018/2019**

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<td>CAPEX</td>
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<td>Expected CAPEX</td>
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</tbody>
</table>

DKK billion
Product Supply is ready to deliver on increasingly complex demands

**Continuously lowered unit costs**

- Human insulin
- Modern insulin
- New-generation insulin

**Next up is optimisation of Rybelsus®**

- FMC: Full manufacturing costs
- Volume
- Time

**Well-positioned today and in the future**

- High manufacturing capacity
- Agile manufacturing setup in a more complex environment
- Reduced manufacturing risk and improved safety
- Drive efficiency gains and lower unit costs

FMC: Full manufacturing costs
The corporate strategy is the guiding principle for Novo Nordisk’s approach to resource allocation.

Corporate strategy is focusing on four therapeutic areas:

- **Diabetes Care**: Strengthen leadership by offering innovative medicines and driving patient outcomes.
- **Obesity Care**: Strengthen treatment options through market development and by offering innovative medicines and driving patient outcomes.
- **Biopharm**: Secure a leading position by leveraging full portfolio and expanding into adjacent areas.
- **Other Serious Chronic Diseases**: Establish presence by building competitive profile and scientific leadership.

**Focus on driving sustained sales growth**

**Production focused on improving unit costs**

**R&D investments** in future growth assets

**Commercial investments** in growth markets and products.
Gross margin to be broadly stable driven by continuously driving productivity improvements

Gross margin remains competitive

Gross margin development

- Negatively impacted by US pricing and affordability initiatives
- Rybelsus® unit costs initially impacting gross margin negatively
- Positively impacted by productivity and higher GLP-1 sales and new-generation insulin
Over time, Research & Development cost ratio is expected to gradually increase

The activity level in R&D is expected to increase driven by an increase in number of pipeline assets and patients enrolled

R&D costs development

- Over time, gradual increase in R&D cost ratio driven by innovation opportunities and early-stage research
- Solid balance sheet allows investments in external R&D assets
- Efficiency focus reduces cost per patient
Over time, Sales & Distribution cost ratio is expected to gradually decline

Sales & Distribution costs development

- Resource allocation shifting away from low growth products and markets to growth products and markets
- Short-term investments to launch Ozempic® and Rybelsus® successfully
- Efficiency focus to drive operational leverage
Regional operating margins reflect moderate variance

Operating margins reflecting maturity and investments

Differences driven by:
- Pricing
- Product mix
- Cost of operations
- Economies of scale
- Growth potential
Focus on driving solid sales growth and investing to build future growth assets

Corporate strategy focusing on four therapeutic areas

- **Diabetes Care**: Strengthen leadership by offering innovative medicines and driving patient outcomes
- **Obesity Care**: Strengthen treatment options through market development and by offering innovative medicines and driving patient outcomes
- **Secure a leading position by developing new portfolios and expanding into adjacent areas**
- **Biopharm**: Establish presence in building competitive pipeline and scientific leadership

**Rx**

- Focus on driving solid sales growth
- Gross margin to remain broadly stable
- Over time, Research & Development cost ratio to gradually increase
- Over time, Sales & Distribution cost ratio to gradually decline
- Administration cost ratio to decline
Net profit has consistently been converted to cash and returned to shareholders

**Cash conversion and cash allocation, FY2018**

- 84% conversion from Net profit to Free cash flow
- 106% cash return

- Share buyback
- Dividend

**Solid cash conversion and return of cash to shareholders**

- Cash conversion historically above 90%
- Novo Nordisk has returned DKK 109 billion to shareholders over the last three years
- 23 years of increasing dividends
- Very solid balance sheet
- M&A up to USD 5 billion
Novo Nordisk is on-track to achieve current long-term financial targets

<table>
<thead>
<tr>
<th>Cash conversion (3-year average)</th>
<th>OPAT/NOA</th>
<th>Average operating profit growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target: 85%</td>
<td>Target: 80%</td>
<td>Target: 5%</td>
</tr>
<tr>
<td>2019 status(^1): 93%</td>
<td>2019 status(^1): 120%</td>
<td>2019 status(^2): 4.7%</td>
</tr>
</tbody>
</table>

\(^1\) Based on YTD 2019 performance provided in connection with 9M 2019 report
\(^2\) Based on FY 2019 guidance provided in connection with 9M 2019 report and with 2015 as the base year
Financial outlook

• Deliver solid sales and operating profit growth
  • Deliver 6-10% sales growth in International Operations
  • Transform 70% of sales in the USA\(^1\)
• Drive operational efficiencies across the value chain to enable investments in future growth assets
• Deliver free cash flow to enable attractive capital allocation to shareholders

\(^1\) 2015-2022
Sources, notes and abbreviations – PS and Financials

- **Slide 214**: API: Active pharmaceutical ingredients
- **Slide 226**: OPAT: Operating profit after tax; NOA: Net operating assets
STRICTIC
ASPIRATIONS
2025
Forward-looking statements

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Sustained growth opportunities – strategic aspirations for 2025

- Purpose and sustainability
- Innovation and therapeutic focus
- Commercial execution
- Financial outlook
Purpose and sustainability

Novo Nordisk has a clear purpose

Being respected for adding value to society

Progress towards zero environmental impact

Novo Nordisk WAY

- Driving change to defeat diabetes and other serious chronic diseases
- Core capabilities

- World Diabetes Foundation
- Changing diabetes in children
- Cities changing diabetes
- US affordability
- Base of the pyramid
- Partnering for change: Open care in humanitarian crises
- Access to insulin commitment

SOLVE GLOBAL ENVIRONMENTAL CHALLENGES
LEAVE ZERO ENVIRONMENTAL IMPACT
EMBED CIRCULAR MINDSET ACROSS ORGANISATION
Purpose and sustainability – strategic aspirations for 2025

- Being respected for adding value to society
- Progress towards zero environmental impact
- Ensure distinct core capabilities and evolve culture
Innovation and therapeutic focus

Further raise the innovation bar for diabetes treatment

- Insulin
- GLP-1
  - Curative treatment
  - Oral GLP-1 analogue
  - Once-weekly
  - Weekly GLP-1 analogue
  - Long-acting
  - Native GLP-1

Develop a leading portfolio of superior treatment solutions for obesity

- Phase 1: PYY 1562, PYY 1875
- Phase 2: AM833, Tri-agonist, GLP1-co-agonist
- Phase 3: Saxenda®

Strength and progress the Biopharm pipeline

- Curative therapy
- Non-invasive therapy
- Concizumab
- Esperoct®
- Refixia®
- NovoEight®
- NovoSevent®
- Mim8

Establish presence in Other serious chronic diseases

- CVD
- CKD
- NASH
- Stem Cells
Innovation and therapeutic focus – strategic aspirations for 2025

- Further raise the innovation bar for diabetes treatment
- Develop a leading portfolio of superior treatment solutions for obesity
- Strengthen and progress the Biopharm pipeline
- Establish presence in Other serious chronic diseases focusing on CVD, NASH and CKD
Novo Nordisk is gaining global diabetes market share

New-generation insulin portfolio expected to increase volume

There is room for both oral and injectable GLP-1s to drive class growth

- Novo Nordisk market share
- Novo Nordisk share of growth

- The preferred oral: Rybelsus
- The preferred injectable: Ozempic

Global diabetes value market

3 x NGI MU volume

2018

2025
Commercial execution – Obesity and Biopharm

Strengthen Obesity leadership and double current sales

- Anti-obesity medication market: ~15 million patients
- Anti-obesity medication market in 2025: ~24 million patients

Secure a sustained growth outlook for Biopharm

- Internal and external innovation to drive long-term growth
- Launch excellence

People treated with Novo Nordisk products

- Conczumab
- Somapacitan
- Refixia®
- Esperoct®
Commercial execution – strategic aspirations for 2025

• Strengthen Diabetes leadership - aim at global value market share of more than 1/3

• Strengthen Obesity leadership and double current sales

• Secure a sustained growth outlook for Biopharm
Financial outlook

Novo Nordisk USA is turning around 70% of sales in a short period of time

Accelerated sales growth outlook of 6-10% in International Operations to outperform historic growth rates

Future growth drivers
- New insulin launches
- Obesity
- Biopharm
- Modern & human insulin
- Victoza®
- New diabetes GLP-1 launches
- Base sales with mature therapy areas
Financial outlook

Leverage global manufacturing network to drive efficiencies

Focus on driving solid sales growth and investing to build future growth assets

High cash conversion leading to solid cash return to shareholders

- Focus on driving sales growth
- Gross margin to remain broadly stable
- Over time, Research & Development cost ratio to gradually increase
- Over time, Sales & Distribution cost ratio to gradually decline
- Administration cost ratio to decline

Net profit  Free cash  Cash return
DKK

billon

Share buyback Dividend

ILUSTRATIVE

Index

100

80

60

40

20

0

Human insulin
New-generation insulin
Modern insulin
GLP-1

Years

1

15

1

20

40

60

80

100

Human insulin
New-generation insulin
Modern insulin
GLP-1

ILLUSTRATIVE

0

10

20

30

40

Net profit  Free cash  Cash return
DKK

billon

Share buyback Dividend

Rx

1 15

1

20

40

60

80

100

GLP-1

Modern insulin

ILLUSTRATIVE

DKK billion

1

20

30

40
Financial outlook – strategic aspirations for 2025

- Deliver solid sales and operating profit growth
- Deliver 6-10% sales growth in International Operations
- Transform 70% of sales in the USA\(^1\)
- Drive operational efficiencies across the value chain to enable investments in future growth assets
- Deliver free cash flow to enable attractive capital allocation to shareholders

\(^1\) 2015-2022
Sustained growth opportunities – strategic aspirations for 2025

Purpose and sustainability
- Being respected for adding value to society
- Progress towards zero environmental impact
- Ensure distinct core capabilities and evolve culture

Innovation and therapeutic focus
- Further raise the innovation-bar for diabetes treatment
- Develop a leading portfolio of superior treatment solutions for obesity
- Strengthen and progress the Biopharm pipeline
- Establish presence in Other serious chronic diseases focusing on CVD, NASH and CKD

Commercial execution
- Strengthen Diabetes leadership - aim at global value market share of more than 1/3
- Strengthen Obesity leadership and double current sales
- Secure a sustained growth outlook for Biopharm

Financial outlook
- Deliver solid sales and operating profit growth
  - Deliver 6-10% sales growth in IO
  - Transform 70% of sales in the USA¹
- Drive operational efficiencies across the value chain to enable investments in future growth assets
- Deliver free cash flow to enable attractive capital allocation to shareholders

¹ 2015-2022