

DIABETES CARE

**STRENGTHEN
LEADERSHIP**
BY OFFERING
INNOVATIVE
MEDICINES AND
DRIVING PATIENT
OUTCOMES



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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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

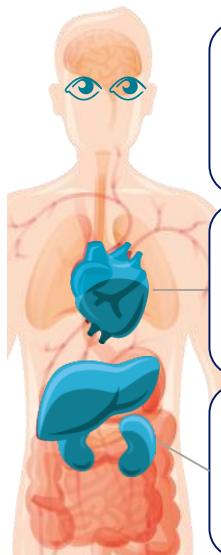
- Victoza® is approved for the management of type 2 diabetes only
- Saxenda® is approved in the USA and the EU for the treatment of obesity only

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 shorter¹
- Driven by **200%** increased risk of **all cause mortality**¹

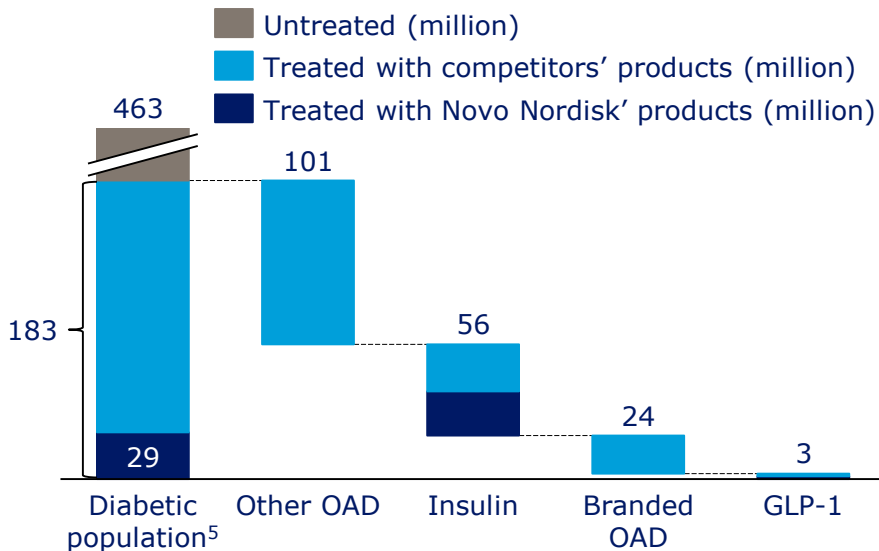


- **70%** of people with diabetes die from **atherosclerotic CVD**²
- **150%** increase in risk of stroke³



- Higher likelihood of neuropathy, retinopathy, limb amputation, cancer and cognitive dysfunction⁴

The unmet need remains large within diabetes



Diabetes volume growth remains solid with 4% growth in a large USD 48 billion diabetes market

The number of treated patients¹ is expected to grow by 4% annually towards 2025



CAGR: +4%

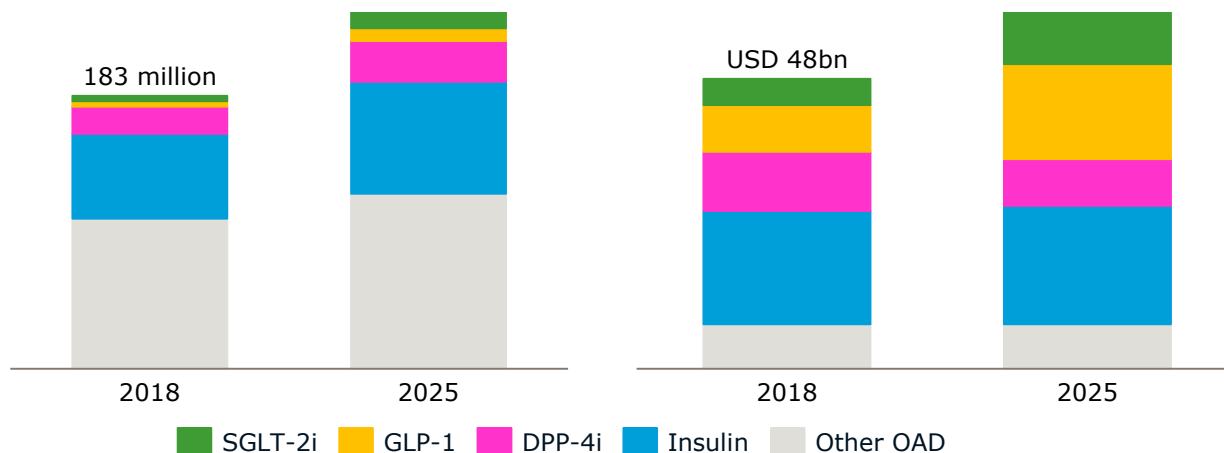
ILLUSTRATIVE

The diabetes realised value² is expected to grow by 4% annually towards 2025



CAGR: +3%
CAGR: +4% excl. DPP-4i

ILLUSTRATIVE



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

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



RYBELSUS® ONCE-WEEKLY **OZEMPIC**® **TRESIBA**®



base
of the
pyramid

access to
insulin
COMMITMENT

changing
diabetes®
in children

PARTNERING
FOR CHANGE
Chronic Care in Humanitarian Cities



cities
changing
diabetes



NCD
The Defeat NCD Partnership

ICRC +   WORLD DIABETES FOUNDATION

New environmental strategy aspiring to have zero environmental impact from operations and transportation by 2030

circular FOR zero

●
SOLVE GLOBAL
ENVIRONMENTAL
CHALLENGES

●
LEAVE ZERO
ENVIRONMENTAL
IMPACT

●
EMBED CIRCULAR
MINDSET ACROSS
ORGANISATION



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

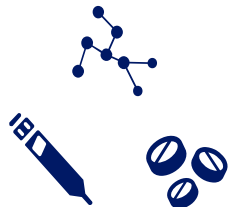


Circular products

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 HbA_{1c} 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

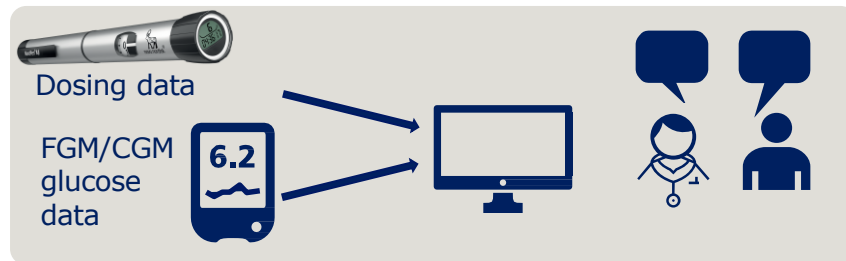


Connected durable device



Smart add-on cap

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



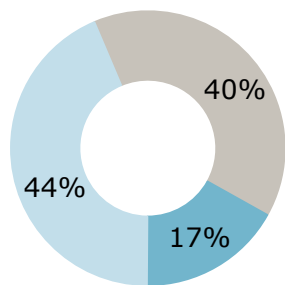
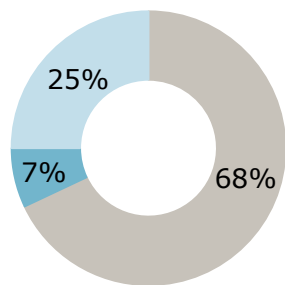
- ↓ 43% fewer missed meal-time insulin injections
- ↑ 28% increase in dose of meal-time insulin
- ↑ 2 additional hours in good glucose control per person per day

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

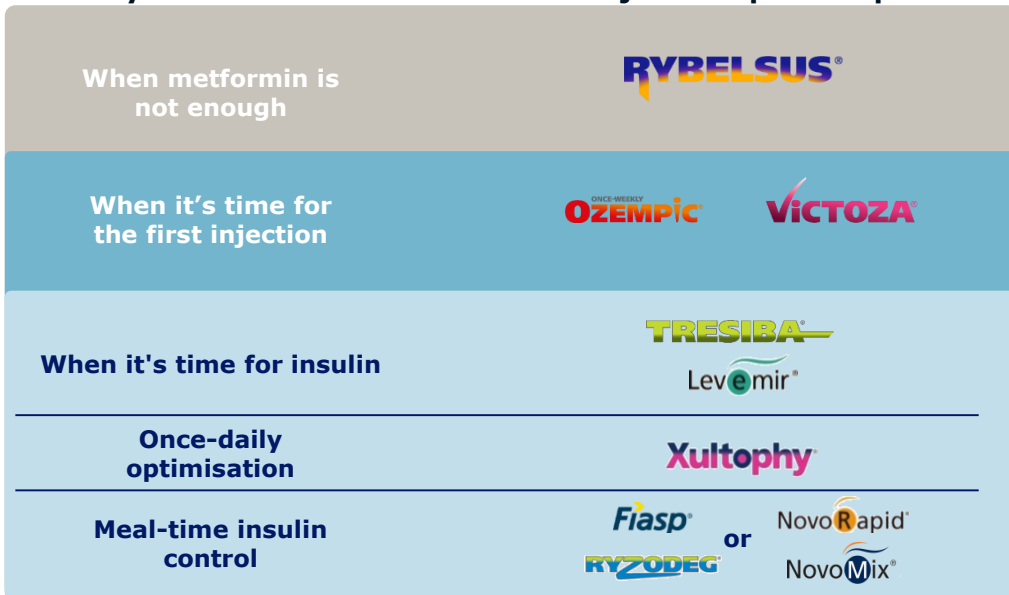
Treated diabetes patients: 183 million

Diabetes market value: USD 48 billion



Tablets Inj. GLP-1 Insulin

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

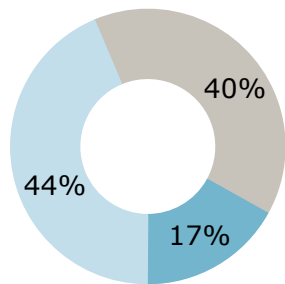
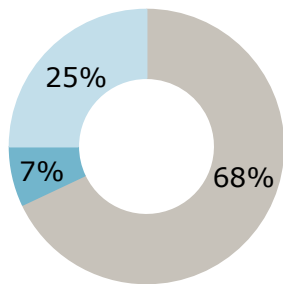


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Treated diabetes patients:
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Diabetes market value:
USD 48 billion



Tablets Inj. GLP-1 Insulin

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

ORAL GLP-1
OZEMPIC[®]

Gain market share in basal insulin

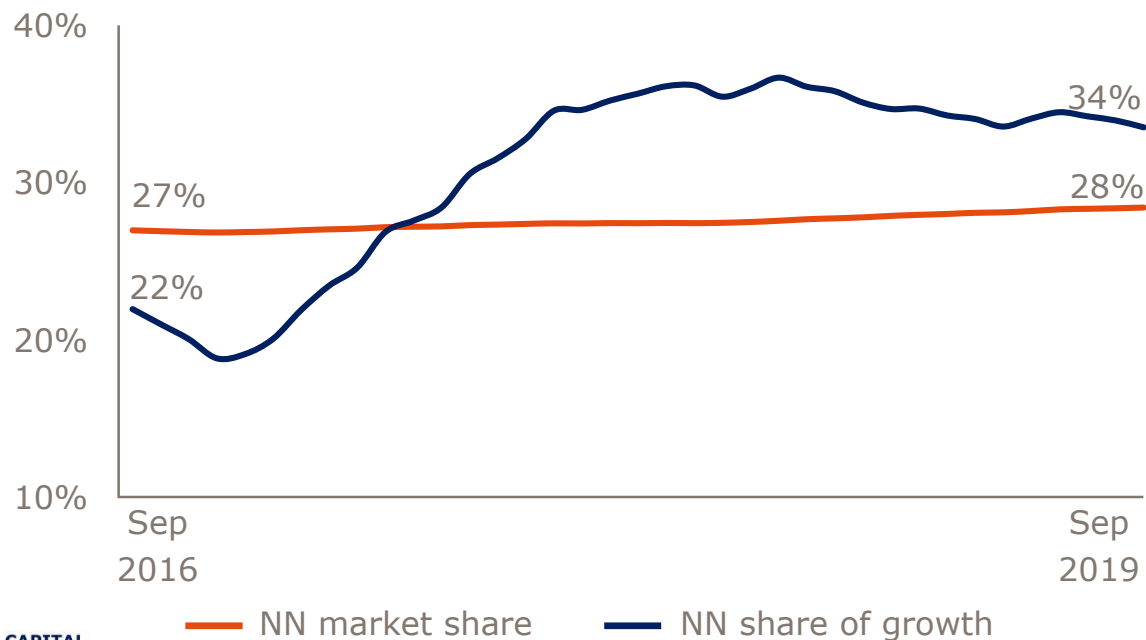
TRESIBA[™]
Xultophy[®]

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



Novo Nordisk diabetes ambitions



Increase market share by 2025 to more than 1/3 in a growing USD 48 billion diabetes market



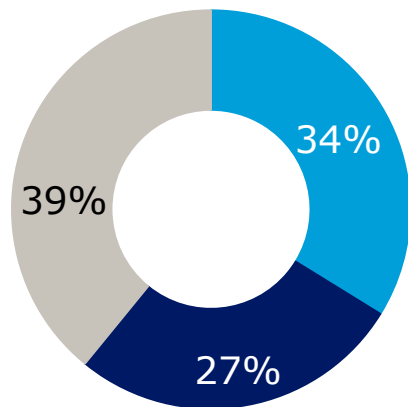
Drive growth via a sustainable business approach and an innovative injectable product portfolio



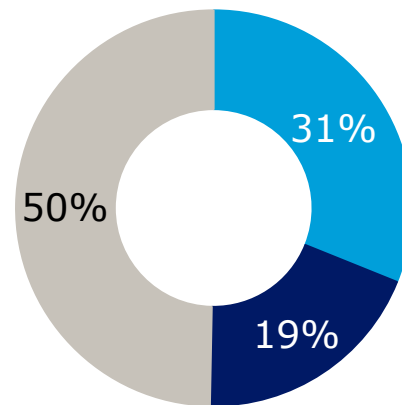
Accelerate growth further with Rybelsus®, the first and only oral GLP-1

Insulin sales remain important with 50% share of revenue but with less dependence on the US insulin sales

2014 sales split



2019 sales split¹



Insulin sales have declined from 61% to 50% of total sales

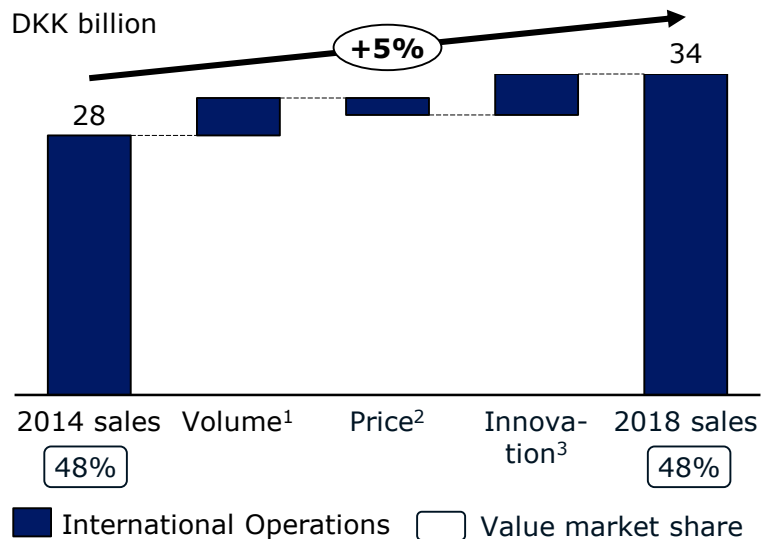
Insulin sales have increased by DKK ~5 billion to DKK ~60 billion between 2014 and 2018

Global leadership insulin leadership has increased from 40% to 44% value market share

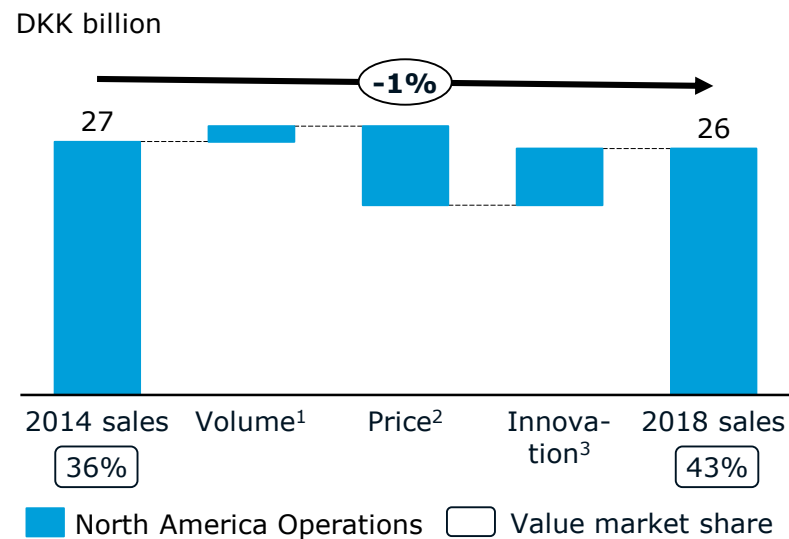
■ IO insulin ■ NAO insulin ■ Other products

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

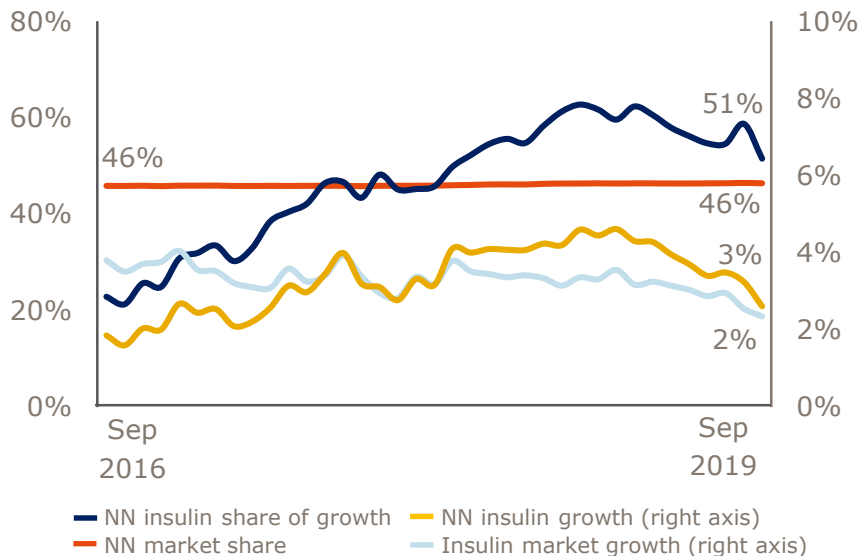


NAO insulin sales decreased by -1% in CER due to lower prices offset by innovation

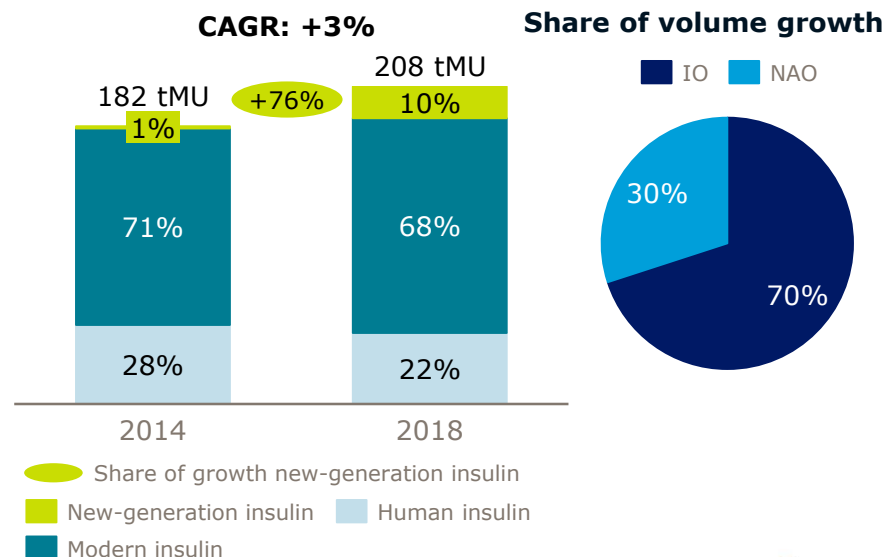


Novo Nordisk insulin volume growth remains stable at around 3% with growth driven by new-generation insulin

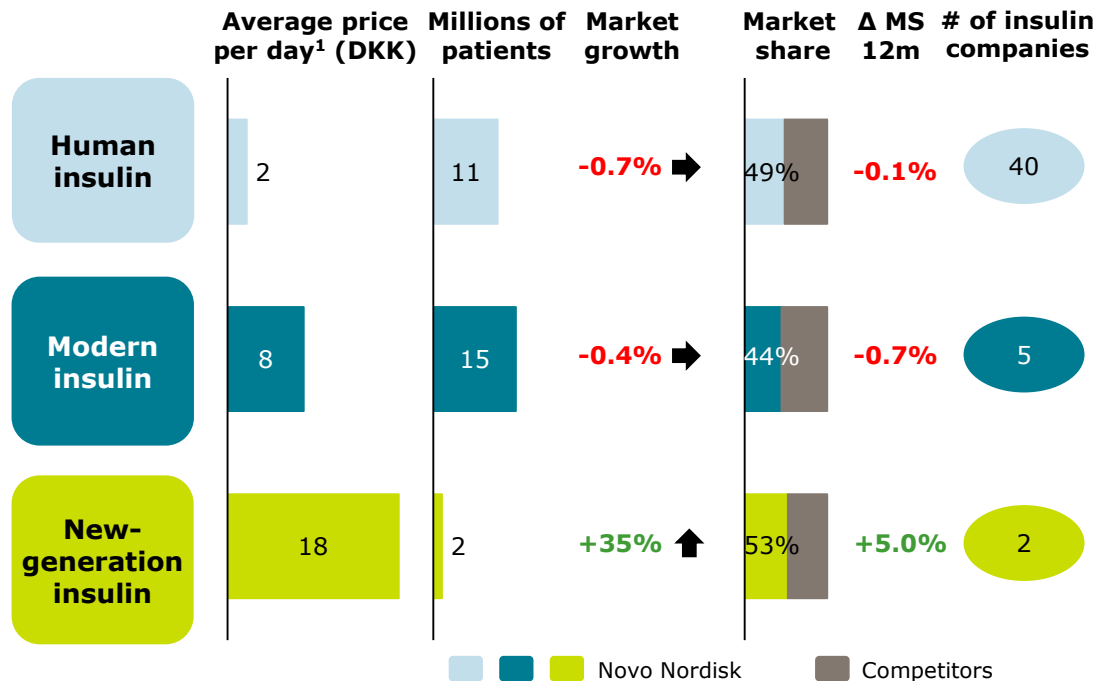
Novo Nordisk has grown on par with the market, but with growth momentum increasing during the last year



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

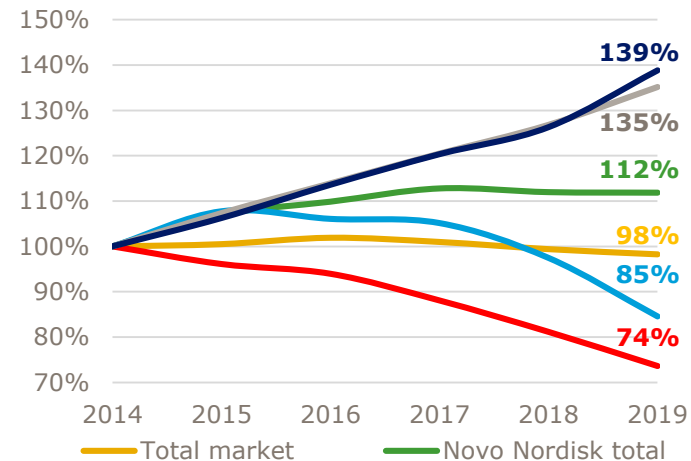


Novo Nordisk focuses on addressing unmet need by ensuring both affordable and innovative insulin are available to the patients



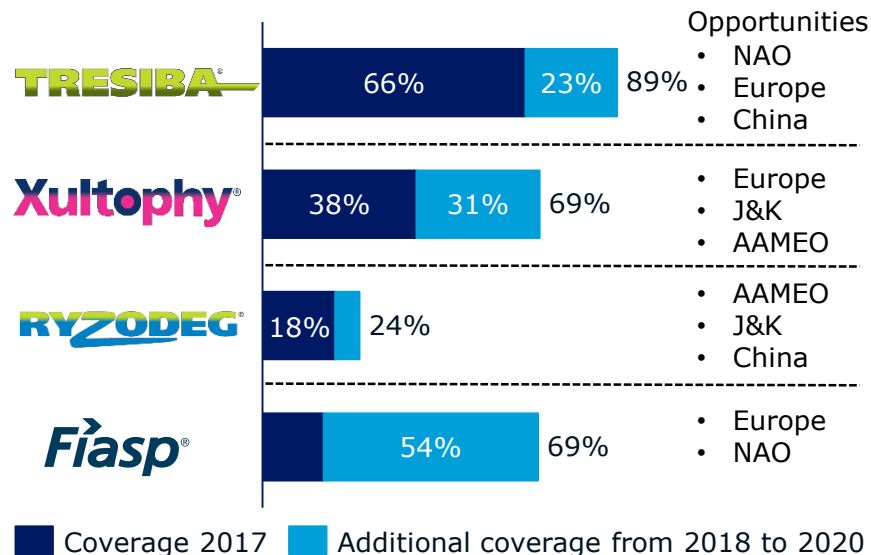
Novo Nordisk insulin sales growth is driven by International Operations²

Sales development

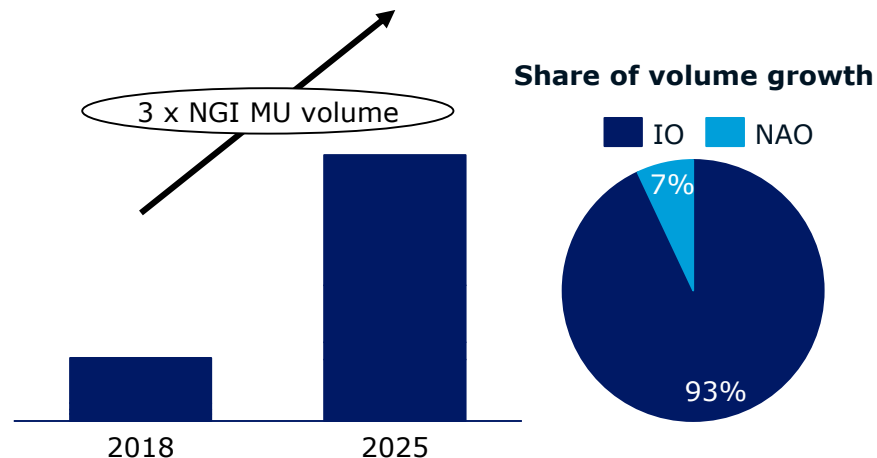


The coverage of new-generation insulin has significantly improved, which supports the ambition to triple the volume

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

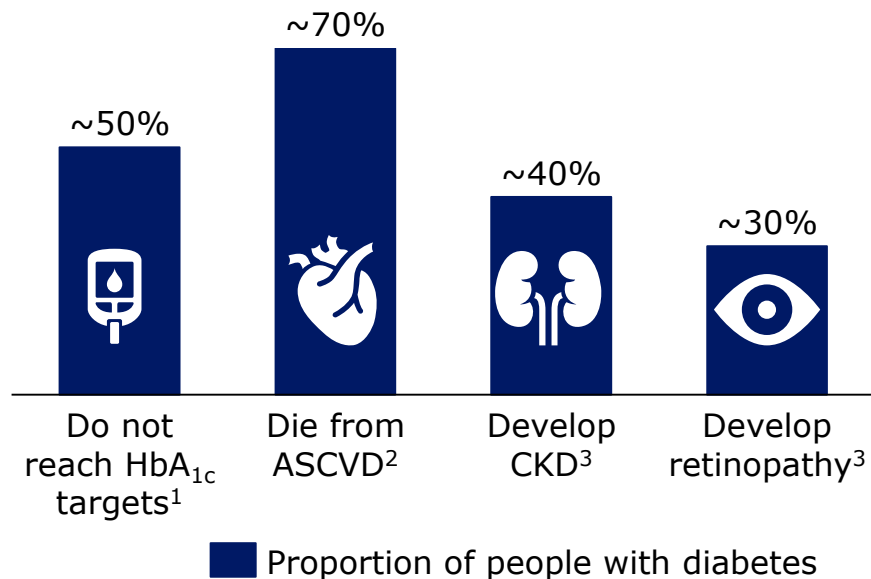


NGI portfolio expected to continue to increase volume

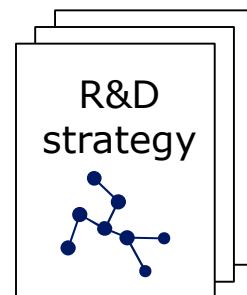


Novo Nordisk innovation targets outcomes beyond HbA_{1c} supporting the aspiration for normalising life with diabetes

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

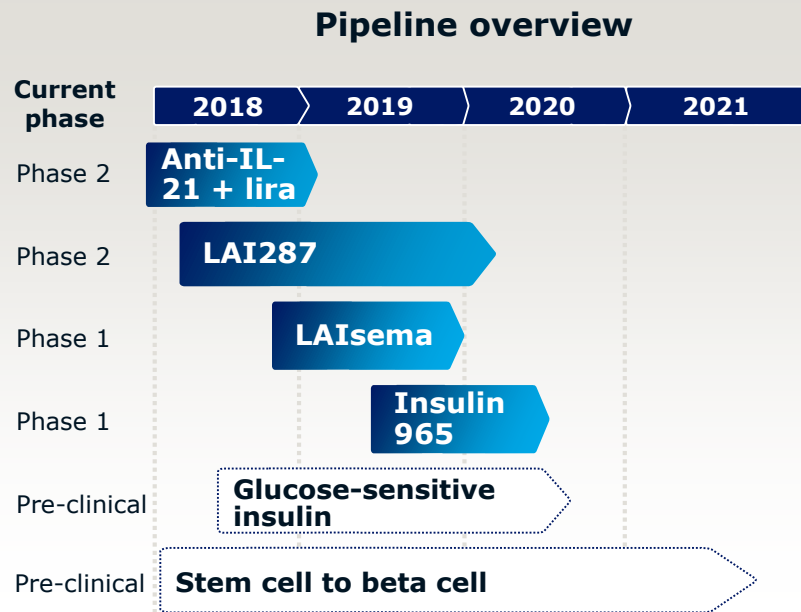
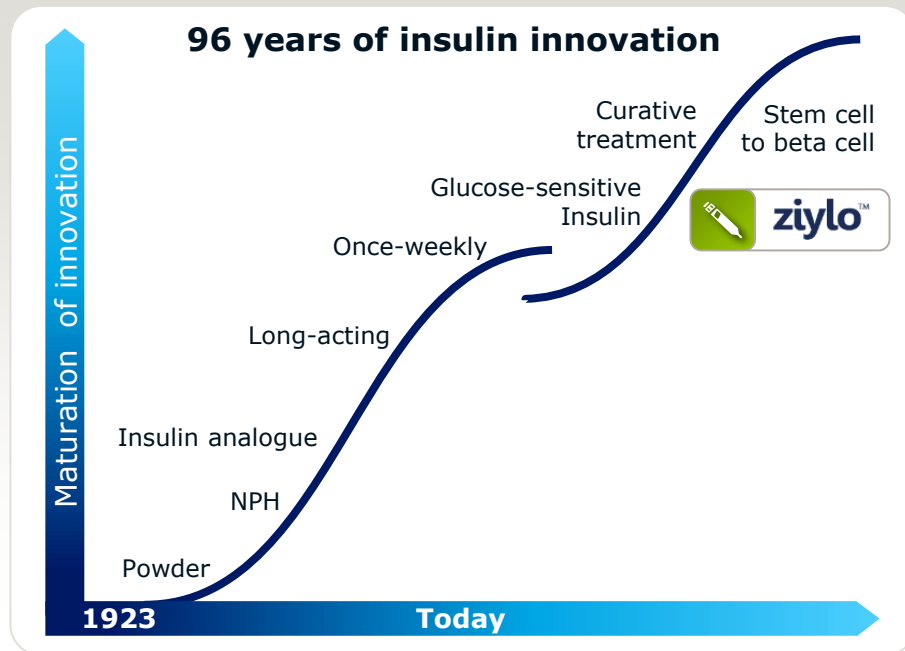


The R&D strategy focuses on further raising the diabetes innovation bar



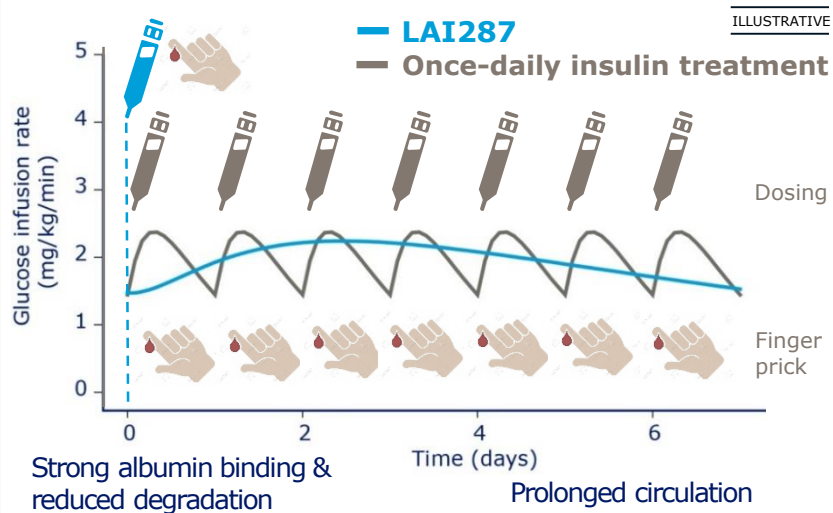
- The focus in diabetes is on driving outcomes beyond HbA_{1c}, targeting diabetes-related comorbidities
- The aspiration is for normalising life with diabetes

Novo Nordisk continues to pursue innovation of insulin with a higher innovation bar to address the current unmet need



LAI287 and insulin 965 are two new basal insulin with raised innovation bar

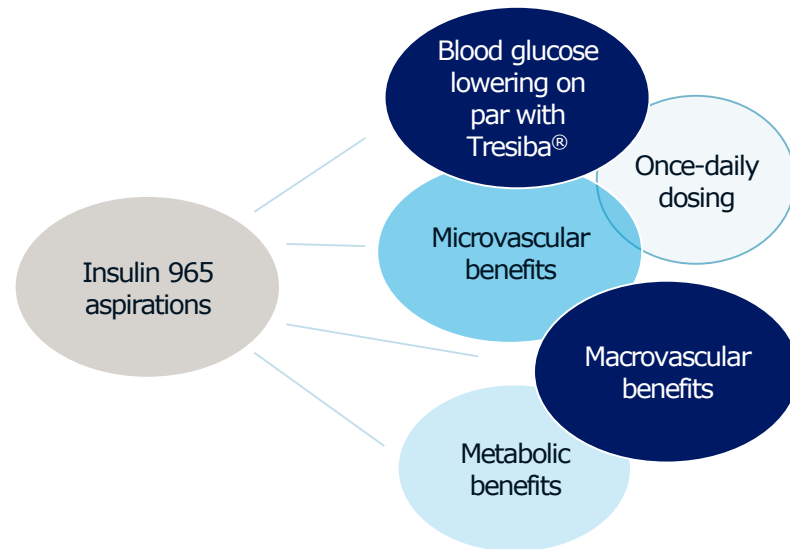
Steady state pharmacodynamic profile of LAI287 is suitable for once-weekly dosing¹



Expected phase 2 results first half 2020

LAI: Long-acting insulin

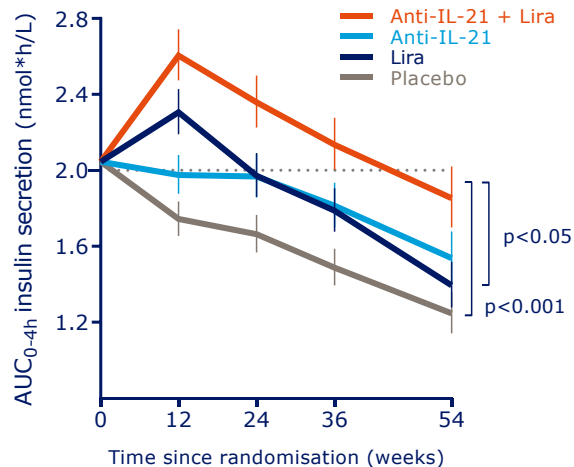
Insulin 965 has entered phase 1



Expected phase 1 results first half 2020

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

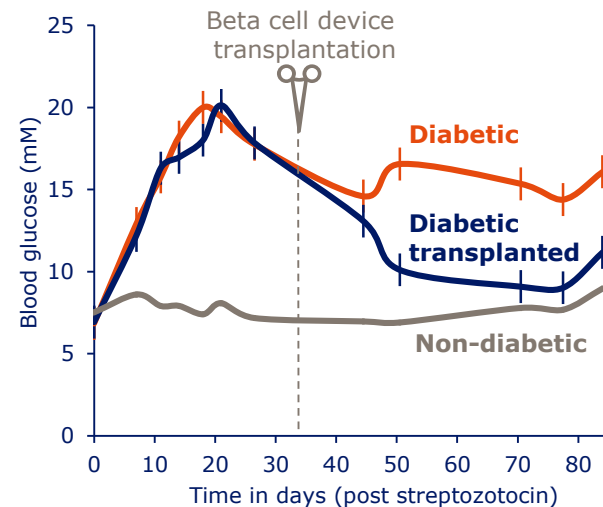


Insulin dose was reduced with anti-IL-21 and liraglutide in combination or alone

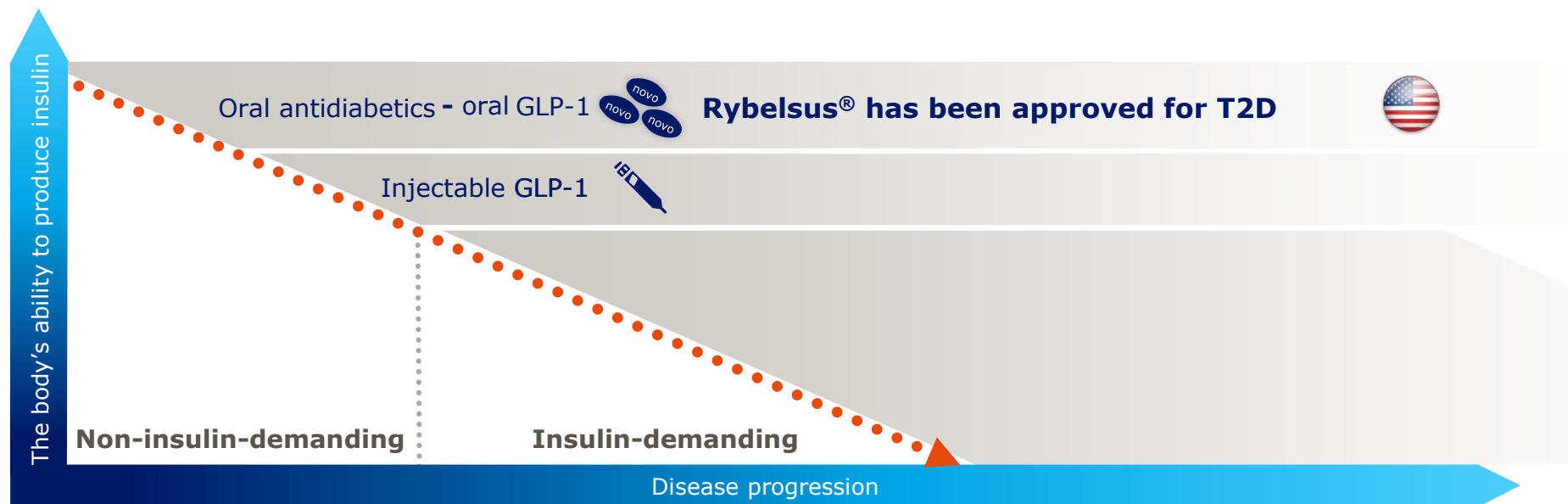


No **safety or tolerability** concerns were reported

Stem cell-derived beta cells normalise glucose levels in mice



GLP-1 should ideally be used as early in the treatment cascade of type 2 diabetes as possible

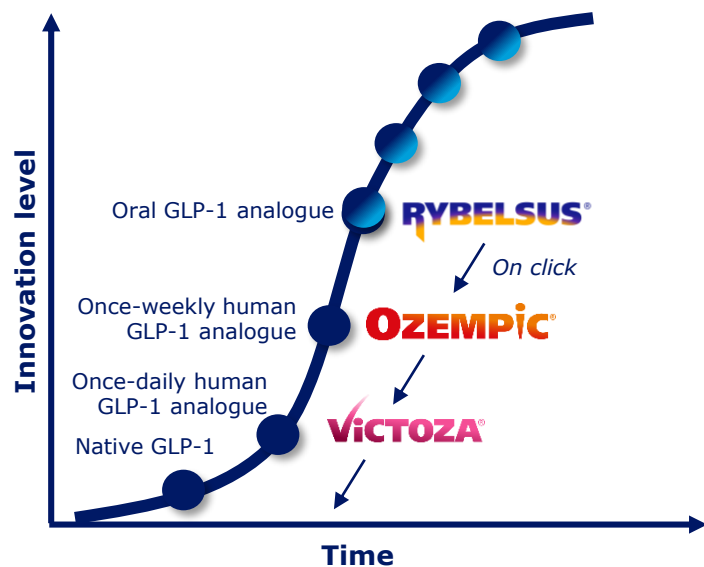


Rybelsus[®] is approved in the US with a competitive label

RYBELSUS[®]



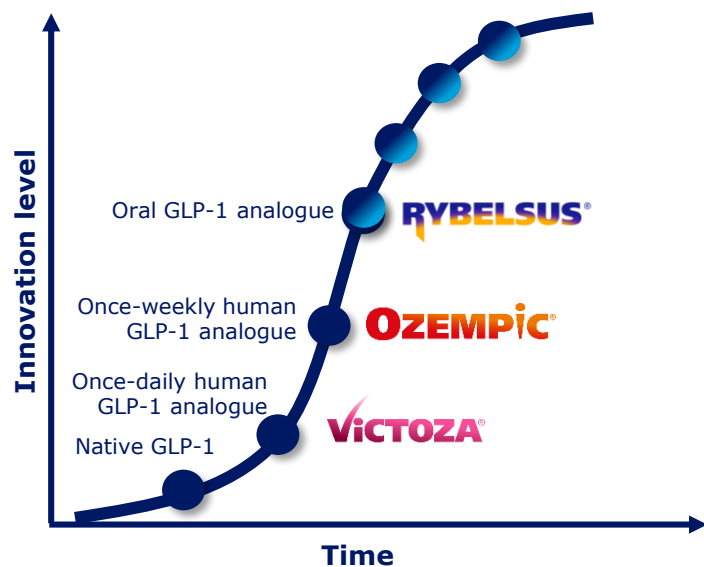
Novo Nordisk is at the forefront of innovation in the GLP-1 class and orally administered delivery devices



Development projects in progress

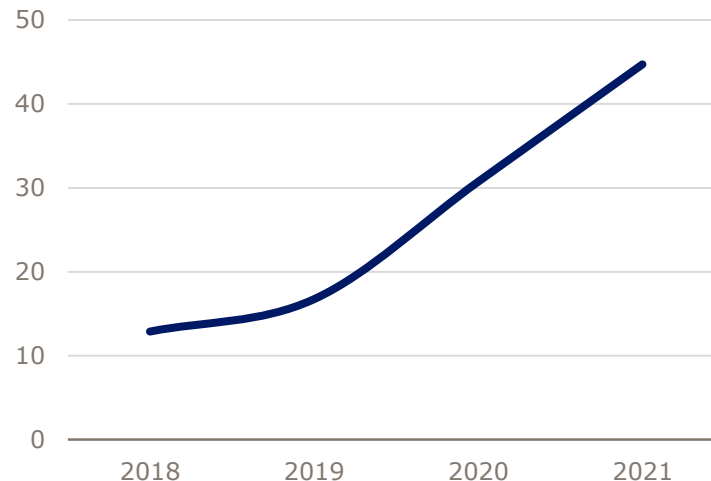
- Injectable QW GIP and semaglutide co-formulation
- Oral semaglutide with upgraded formulations
- New oral delivery devices 'Soma' and 'Lumi'
- Use of GLP-1 in additional indications

Novo Nordisk is at the forefront of innovation in the GLP-1 class and orally administered delivery devices

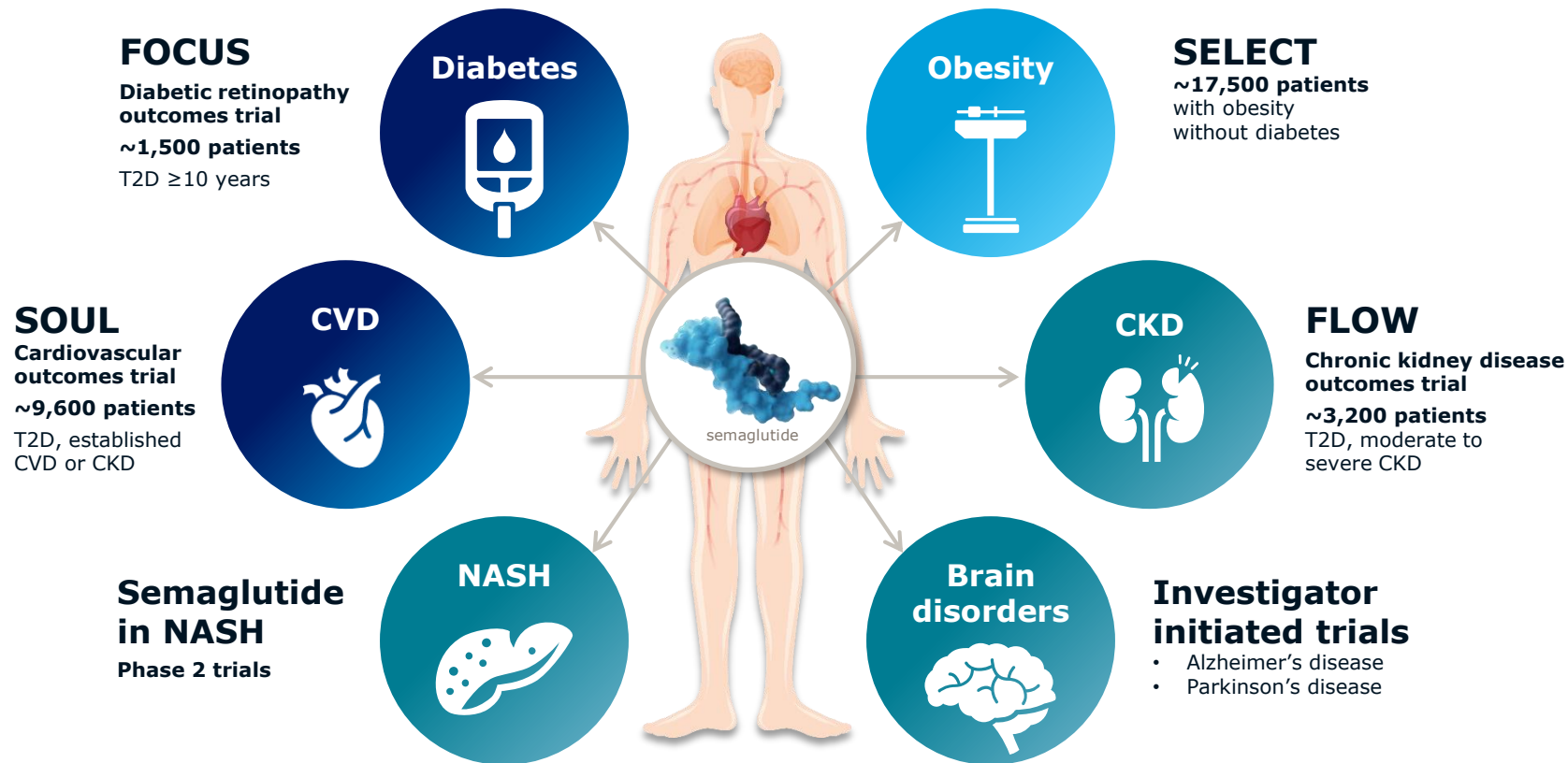


The number of patients enrolled in clinical trials is expected to more than triple in three years

Patient years (1,000)

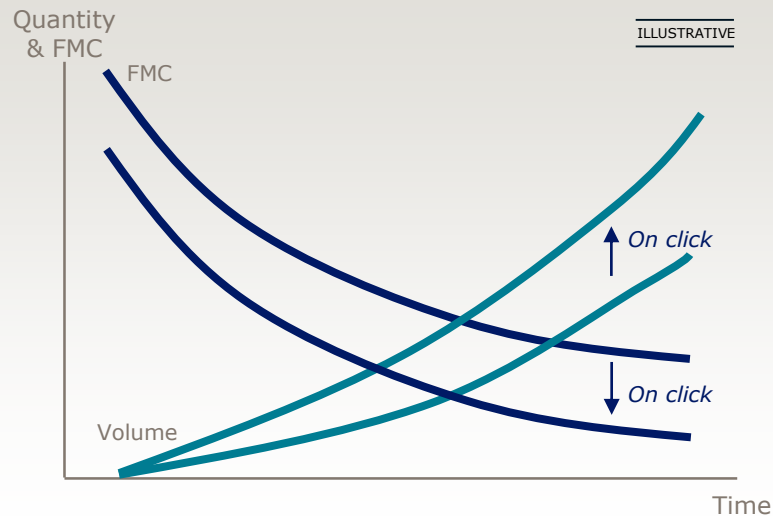


Semaglutide holds a plethora of therapeutic opportunities



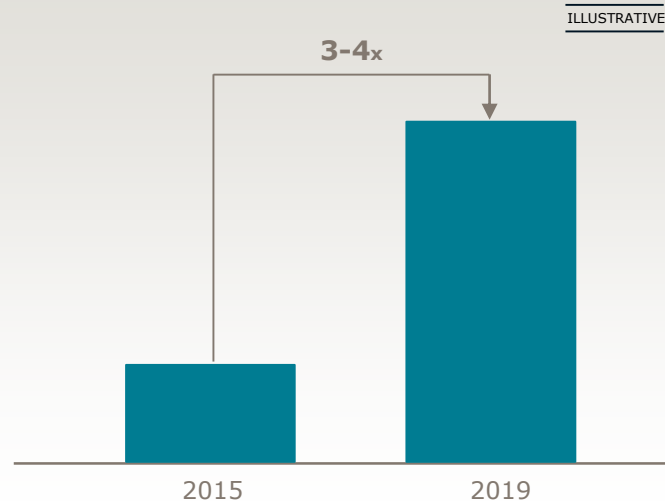
Production cost of Rybelsus® is expected to decrease over time, as volume increases, and capacity is significantly higher

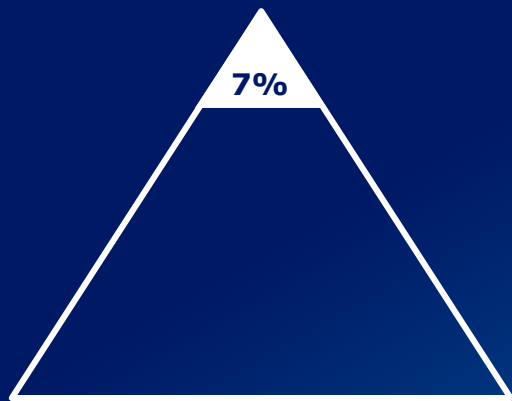
Rybelsus® production cost and volume



FMC: Full manufacturing cost

Production capacity today vs original plan



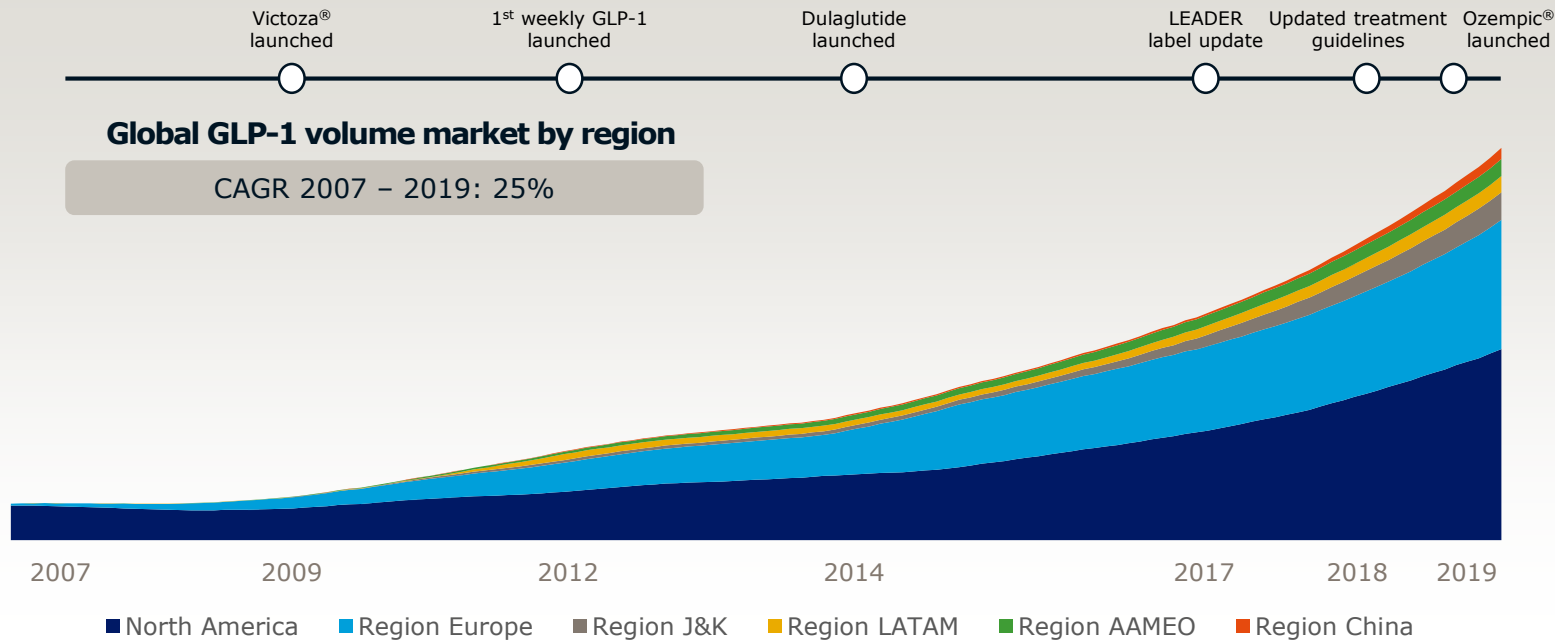


7% of people with type 2 diabetes are treated with a GLP-1 in Western markets

~ 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



There are different dynamics across regions and GLP-1 penetration tends to be correlated with key events

Ozempic®
launched

Updated treatment
guidelines

LEADER
results

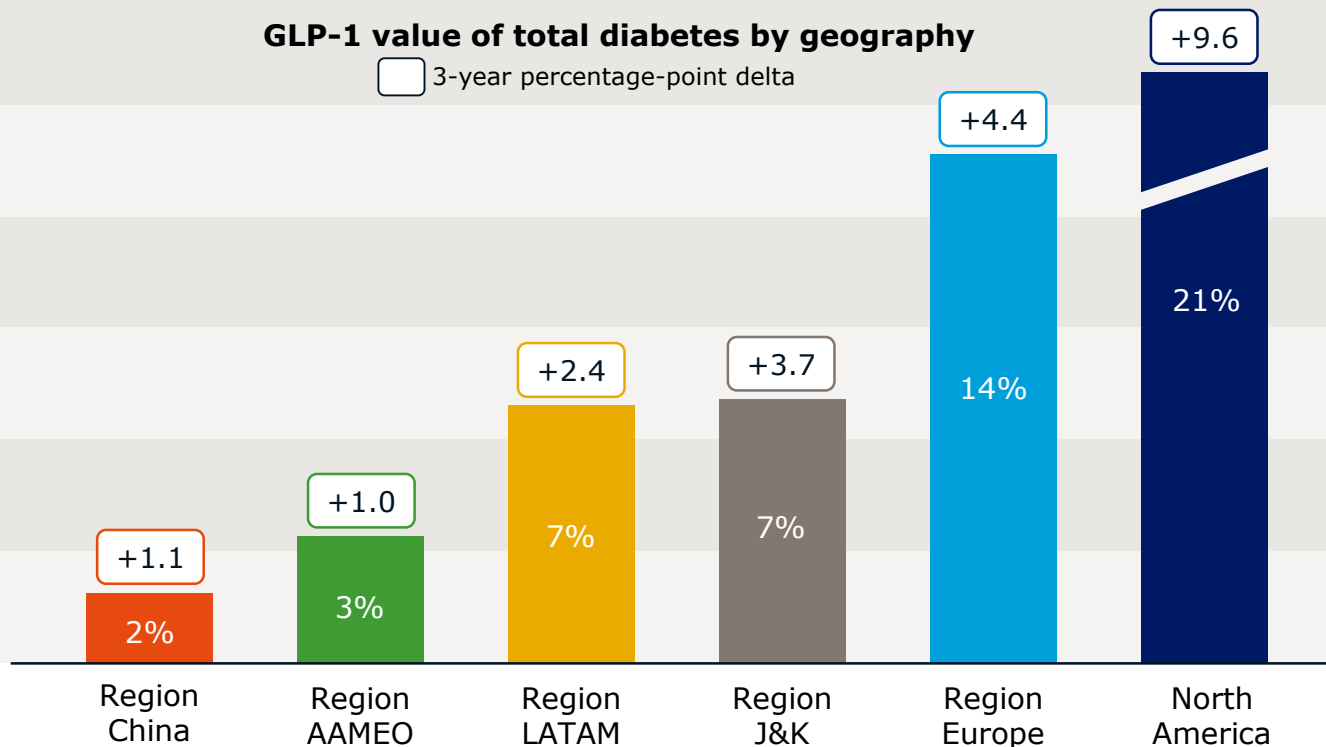
Dulaglutide
launched

1st weekly GLP-1
launched

Victoza®
launched

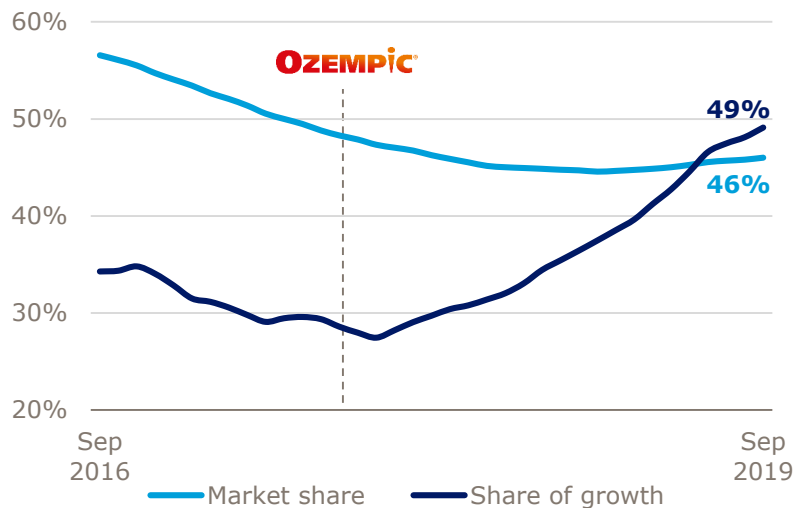
GLP-1 value of total diabetes by geography

3-year percentage-point delta

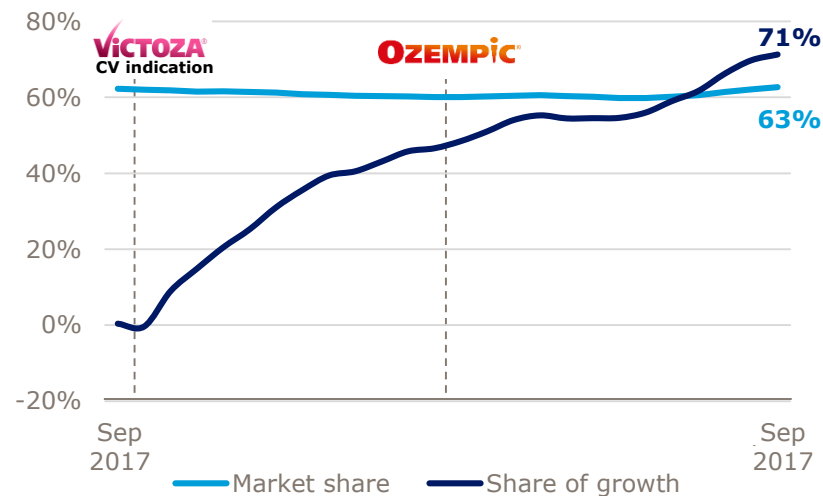


Ozempic® launch has turned around a declining market share trend

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

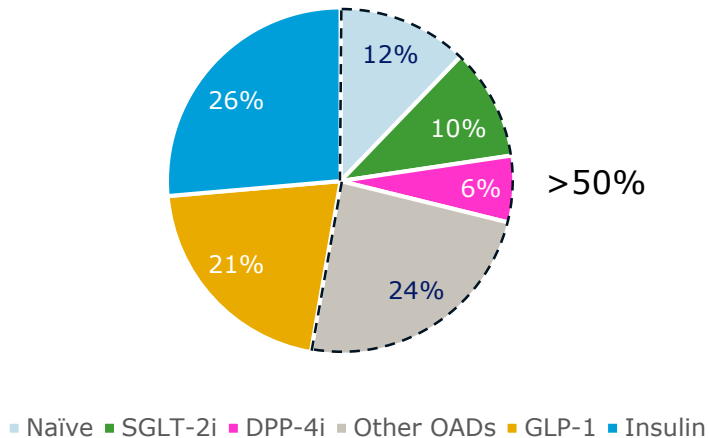


Novo Nordisk GLP-1 value market share and share of growth in European countries where Ozempic® is launched

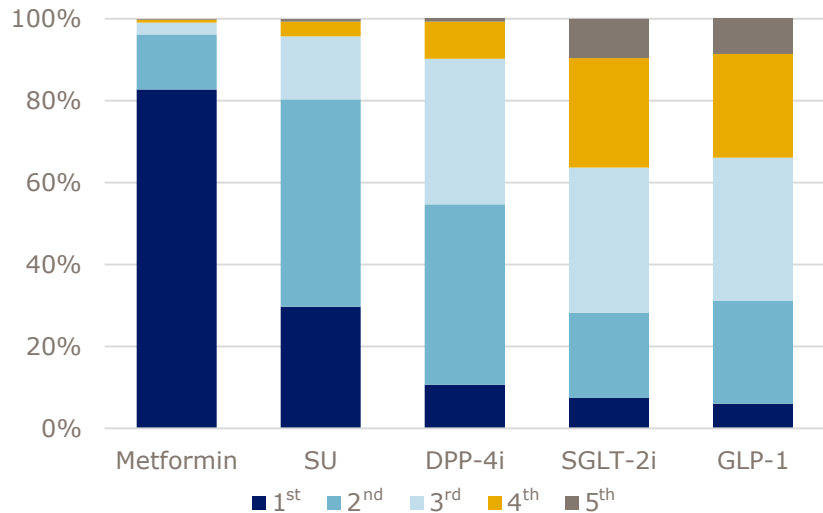


Ozempic® sourcing is primarily from outside the GLP-1 class but GLP-1s are still typically used after failure on other products

US TRx volume and Ozempic® source of patients



US 'line of usage' across product classes



RYBELSUS®

Doctors are excited for Rybelsus® - the first and only oral GLP-1



HbA_{1c}
efficacy



Weight
loss



Safety
profile



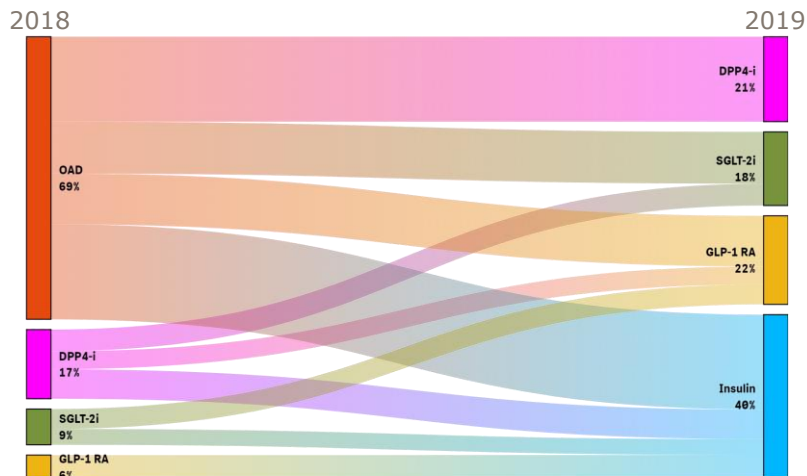
CV
data



Convenient
administration

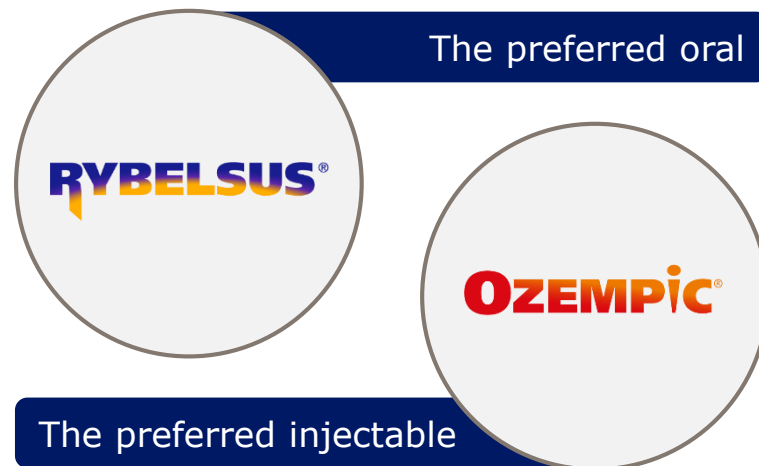
There is room for both oral and injectable GLP-1s to drive class growth

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



There is room for both oral and injectable GLP-1s to drive class growth – and Novo Nordisk has a best-in-class portfolio

Market Fit approach

Continued expansion in markets without Ozempic®

VICTOZA®

Controlled migration in markets with Ozempic®

The preferred oral

RYBELSUS®

OZEMPIC®

The preferred injectable

Closing remarks

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

Sources, notes and abbreviations – Diabetes strategy

Diabetes Strategy

- **Slide 3:** ¹ Diabetes Care 2017 Mar; 40 (3): 338-345; ² https://www.who.int/cardiovascular_diseases/en/; ³ <https://www.diabetes.org/diabetes/complications/stroke>; ⁴ Diabetes Care 2005 Jan; 28(1): 164-176; ⁵ IDF diabetes world atlas, 2019, 9th edition
- **Slide 4:** 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 8:** 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 9 and 10:** 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 11:** Source: IQVIA, Aug 2019, SPOT rate, value, MAT

Sources, notes and abbreviations – Insulin

Insulin

- **Slide 12:** Source: Reported sales split; ¹ based on first nine months of 2019
- **Slide 13:** 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 14:** Source: IQVIA, Sep 2019, volume, MAT, all countries
- **Slide 15:** 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 16:** 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 17:** Sources: ¹ Achievement of Goals in U.S. Diabetes Care, 1999–2010, New England Journal of Medicine 2013; 368:1613-1624; ² https://www.who.int/cardiovascular_diseases/en/; ³ Diabetes Care 2005 Jan; 28(1): 164-176/
- **Slide 19:** ¹ Predicted profiles based on modelled phase 1 data
- **Slide 20:** 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

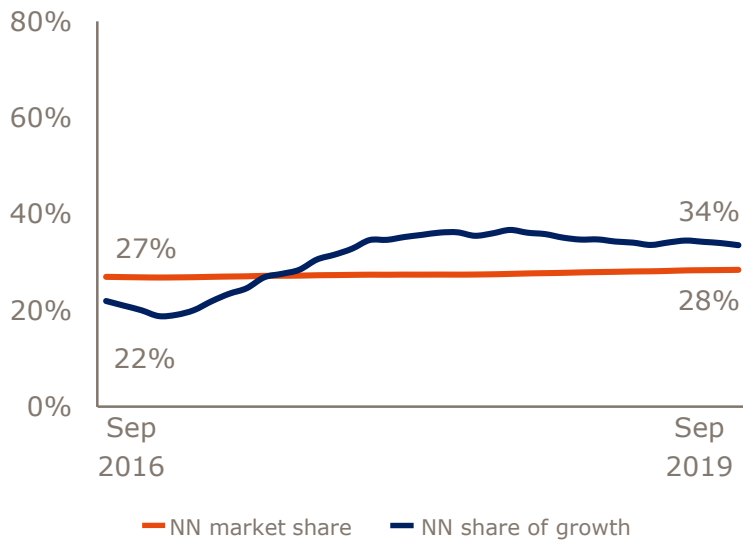
Sources, notes and abbreviations – GLP-1

GLP-1

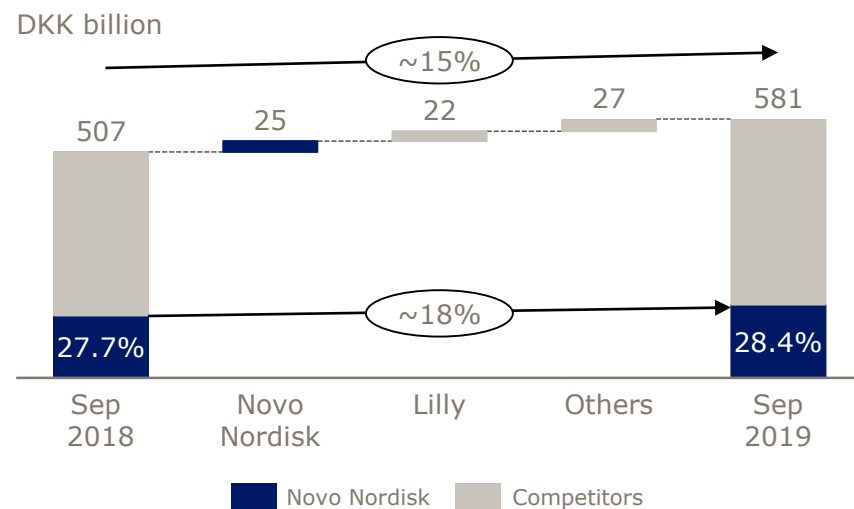
- **Slide 21:** Based on the PIONEER programme
- **Slide 22:** QW: once-weekly
- **Slide 26:** Source: IQVIA PharMetrix claims based on data from the USA, the UK, Germany and France
- **Slide 27:** Source: IQVIA MAT volume, September 2019
- **Slide 28:** Source: IQVIA MAT mDKK, September 2019 latest observation
- **Slide 29:** Source: IQVIA MAT mDKK for USA and 3M rolling for Ozempic® EU launch countries, September 2019 latest observation
- **Slide 30:** Source: LRx we 08/23/19, total writers YTD: 72,747; IQVIA LRx & Pharmedics (US), n = >1 million patients
- **Slide 33:** Source: IQVIA in-market, LRx & Dx & LAAD & Pharmedics 2019 (USA)

Novo Nordisk: Diabetes market share and market growth

Diabetes market growth and Novo Nordisk market share

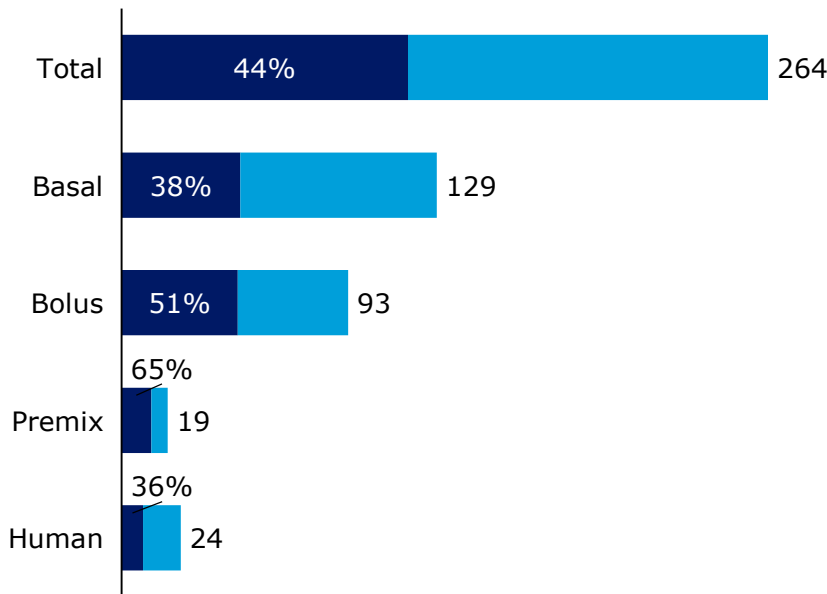


Diabetes market size and growth



Novo Nordisk: Insulin market size and volume share of growth and market share

Insulin market share and market size (DKK billion)



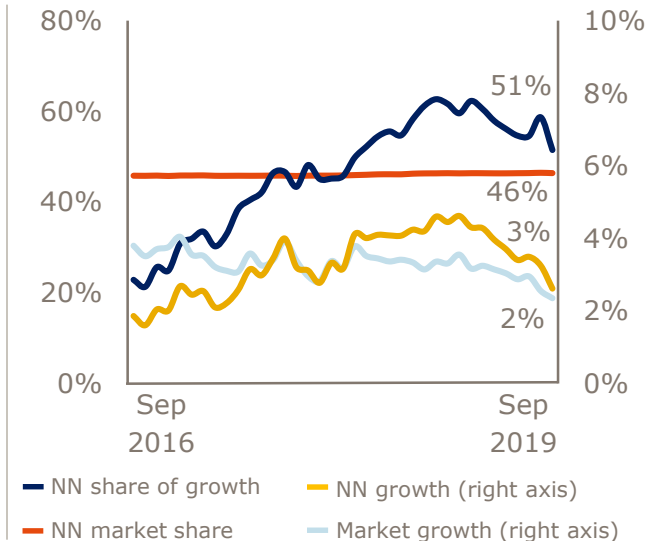
■ Novo Nordisk ■ Competitors

Market growth

Δ Market share¹

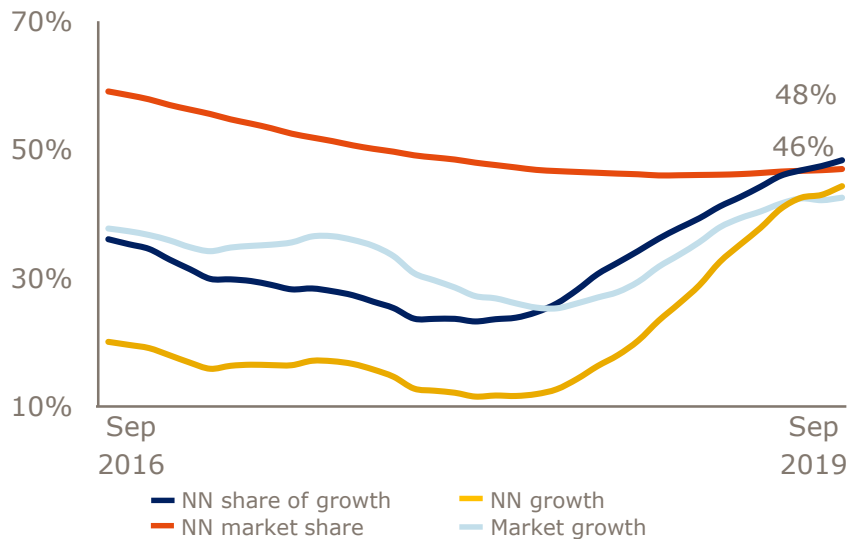


Insulin volume: Share of growth and market share



Novo Nordisk: GLP-1 market share and market growth

GLP-1 market growth and Novo Nordisk market share



GLP-1 market size and growth

