



Morten Kruse Jacobsen (to the right), Senior Director at Novo Nordisk and married to Anders. Being a sustainable employer is a key priority for Novo Nordisk. This includes fostering a diverse and inclusive workplace. From January 2022, Novo Nordisk will offer a minimum of eight weeks paid parental leave to all non-birthing parents globally, regardless of gender.

# Novo Nordisk –a focused healthcare company

Investor presentation  
First nine months of 2022

# Agenda

Progress on Strategic Aspirations 2025

Commercial execution

Innovation and therapeutic focus

Financials

# Forward-looking statements

Novo Nordisk's reports filed with or furnished to the US Securities and Exchange Commission (SEC), including the statutory Annual Report 2021 and Form 20-F, which both were filed with the SEC in February 2022 in continuation of the publication of this Annual Report 2021, this presentation, 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, including as a result of interruptions or delays affecting supply chains on which Novo Nordisk relies, 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 including the risk of cybersecurity breaches, 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, failure to maintain a culture of compliance, and epidemics, pandemics or other public health crises, and the effects of domestic or international crises, civil unrest, war or other conflict.

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 Annual Report 2021, reference is made to the overview of risk factors in 'Risk management' of this Annual Report 2021.


Unless required by law, Novo Nordisk is under no duty and undertakes no obligation to update or revise any forward-looking statement after the distribution of this Annual Report 2021, whether as a result of new information, future events, or otherwise.

## Important drug information

Victoza® and Ozempic® are approved for the management of type 2 diabetes only  
Saxenda® and Wegovy® are approved for the treatment of obesity only

# Strategic Aspirations 2025 | Highlights first nine months of 2022

Light blue indicates developments in Q3 2022



**Purpose and sustainability (ESG)**

**Progress towards zero environmental impact**

- Carbon emissions decreased by 18% vs 9M 2019

**Adding value to society**

- Positive EMA opinion on human insulin with more flexible storage options
- 35.7 million people treated with NN products (net increase of 1.8 million vs end of September 2021)

**Being recognised as a sustainable employer**

- Share of women in VP+ positions increased to 38% from 36% in 9M 2021



**Innovation and therapeutic focus**

**Further raise innovation bar for Diabetes treatment**

- Completion of phase 3a trials with QW insulin icodec
- Completion of phase 2 trial with CagriSema in T2D
- Phase 1 initiated with once-weekly oral semaglutide

**Develop superior treatment solutions for obesity**

- Phase 3 initiated with CagriSema in people with obesity

**Strengthen and progress Rare disease pipeline**

- Concizumab phase 3 trial completed in people with HA and B with inhibitors and in people without inhibitors
- Phase 3a trial initiated with Mim8 in Haemophilia A
- Acquisition of Forma Therapeutics mainly within SCD



**Commercial execution**

**Diabetes value market share increased by 1.7%-points to 31.6%<sup>1</sup>**

**Obesity care sales of DKK 11.4 billion (+75% at CER)**

**Rare disease sales of DKK 15.7 billion (+2% at CER)**



**Financials**

**Sales growth of 16% and Operating profit growth of 14%**

- Sales in International Operations grew by 11%
- Sales in the US grew by 21% with 72% of sales coming from products launched since 2015

**Gross margin positively impacted** by continued productivity gains in Product Supply

**Free cash flow** of DKK 62.5 billion and DKK 41.9 billion returned to shareholders during 9M 2022

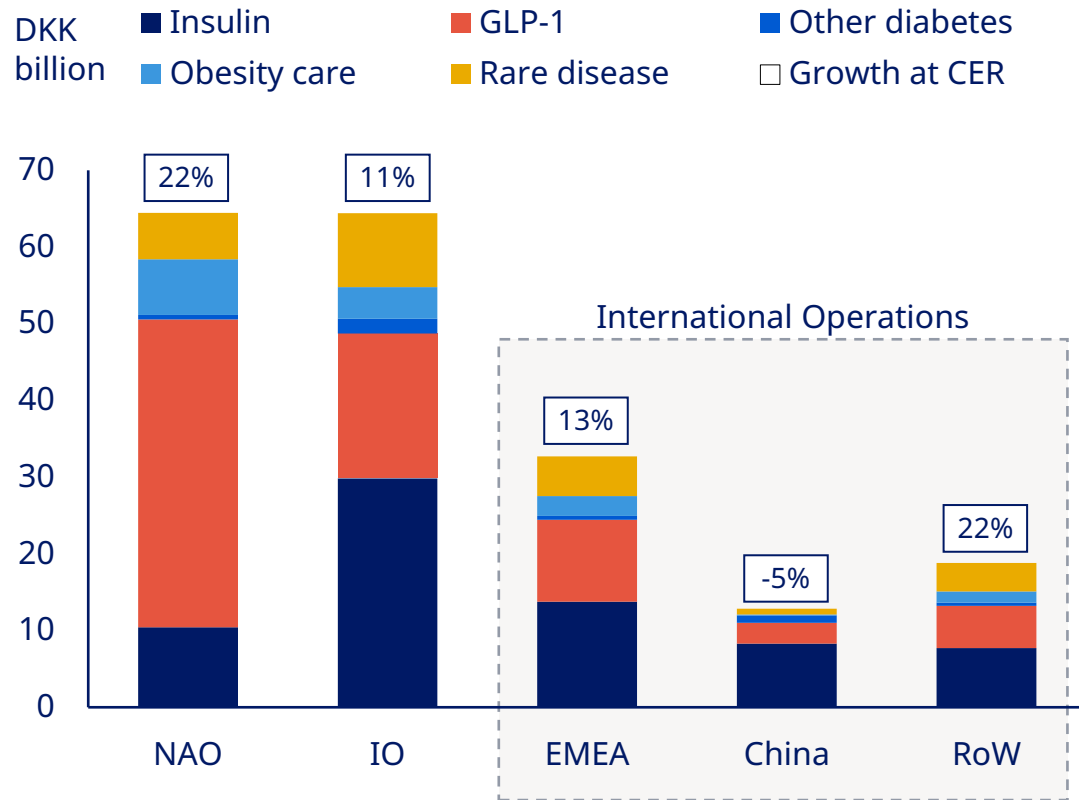
<sup>1</sup>MAT (Moving annual total) value market share

9M: First nine months; EMA: European Medicines Agency; VP: Vice president; QD: Once-daily; QW: Once-weekly; CER: Constant exchange rates; T2D: Type 2 diabetes; HA: Haemophilia A; HB: Haemophilia B; SCD: Sickle Cell Disease

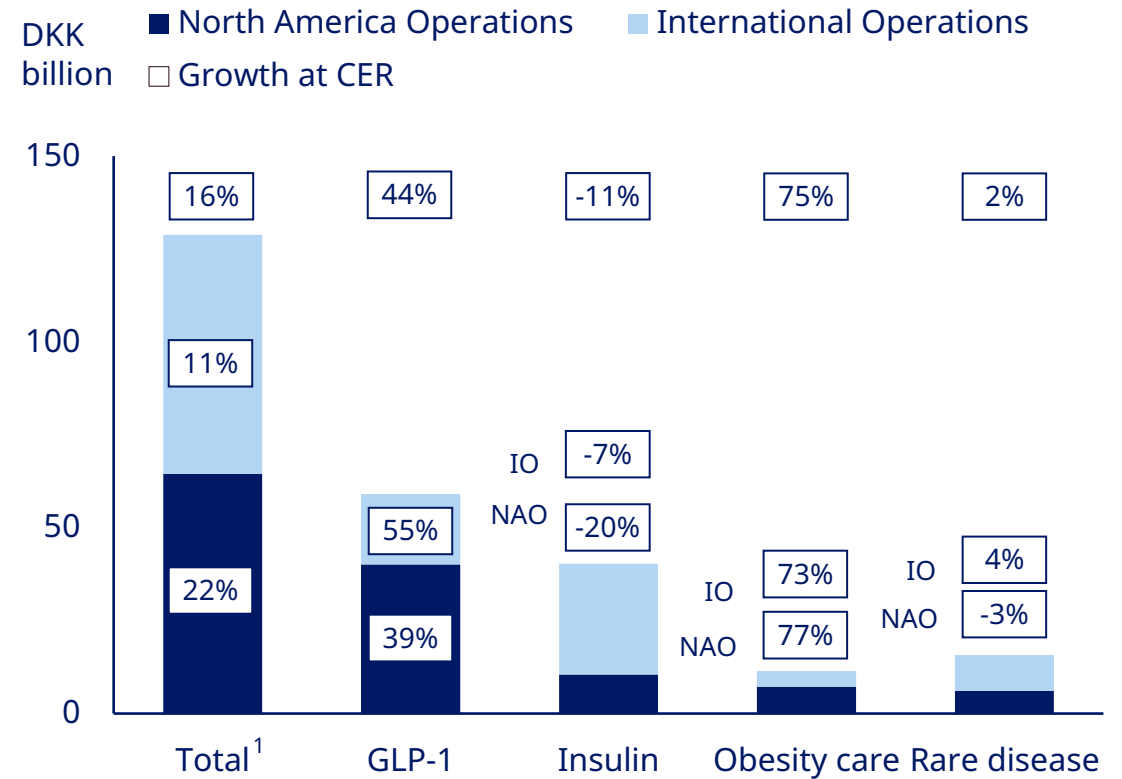
Note: The strategic aspirations are not a projection of Novo Nordisk's financial outlook or expected growth

# Sales growth of 16% driven by both operating units

Reported geographic sales split for first nine months of 2022



Reported therapy area sales and growth for first nine months of 2022



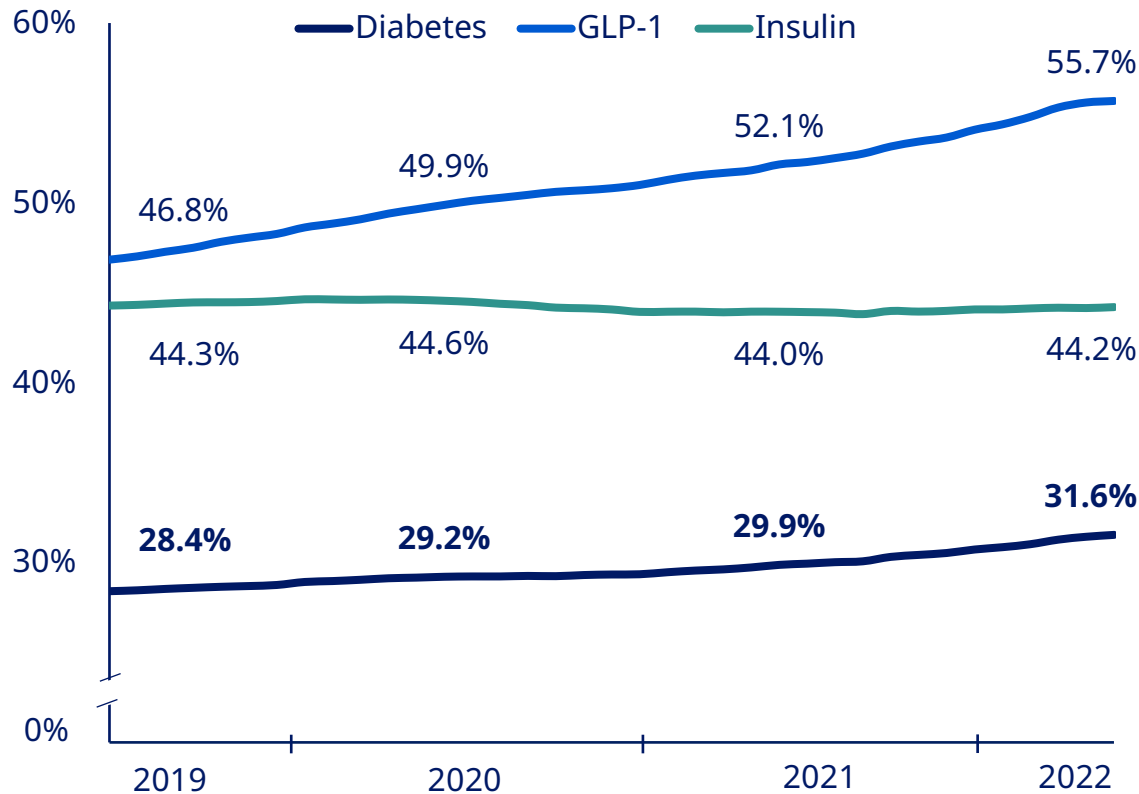
<sup>1</sup> 'Other diabetes' is included in Total

IO: International Operations; EMEA: Europe, Middle East and Africa; China: Mainland China, Hong Kong and Taiwan; RoW: Rest of World; NAO: North America Operations

Note: Unless otherwise specified, sales growth rates are at CER

# Diabetes value market leadership increased by 1.7%-points to 31.6%

Novo Nordisk global diabetes value market shares



## Diabetes value market leadership expansion driven by the GLP-1 franchise

**Diabetes care sales grew by 14%** with global value market share increase driven by GLP-1 market share gains in both IO and NAO

Insulin value market share has slightly increased from 44.0% to 44.2% in the last 12 months

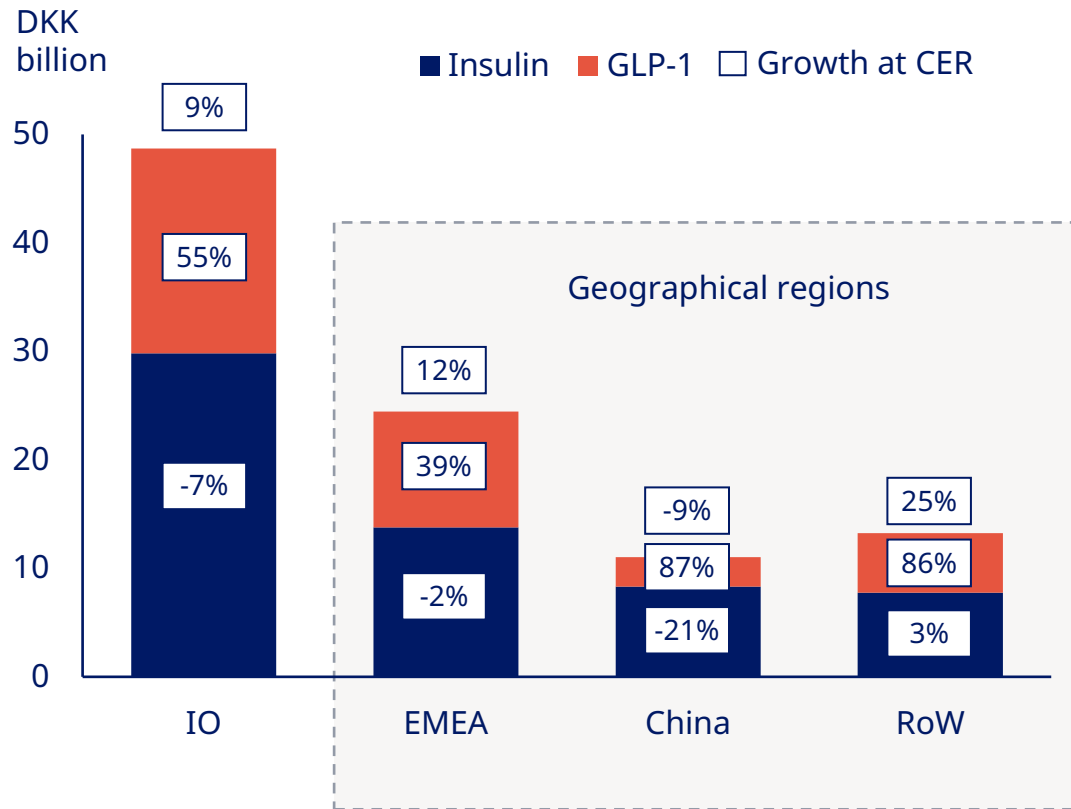
GLP-1 value market share has increased by 3.6%-points in the last 12 months, driven by:

- Ozempic® launches and uptake in 75 countries
- Rybelsus® uptake in North America Operations and launches in International Operations
- Global GLP-1 volume growth of ~44%
  - GLP-1 is only 4% of total diabetes prescriptions

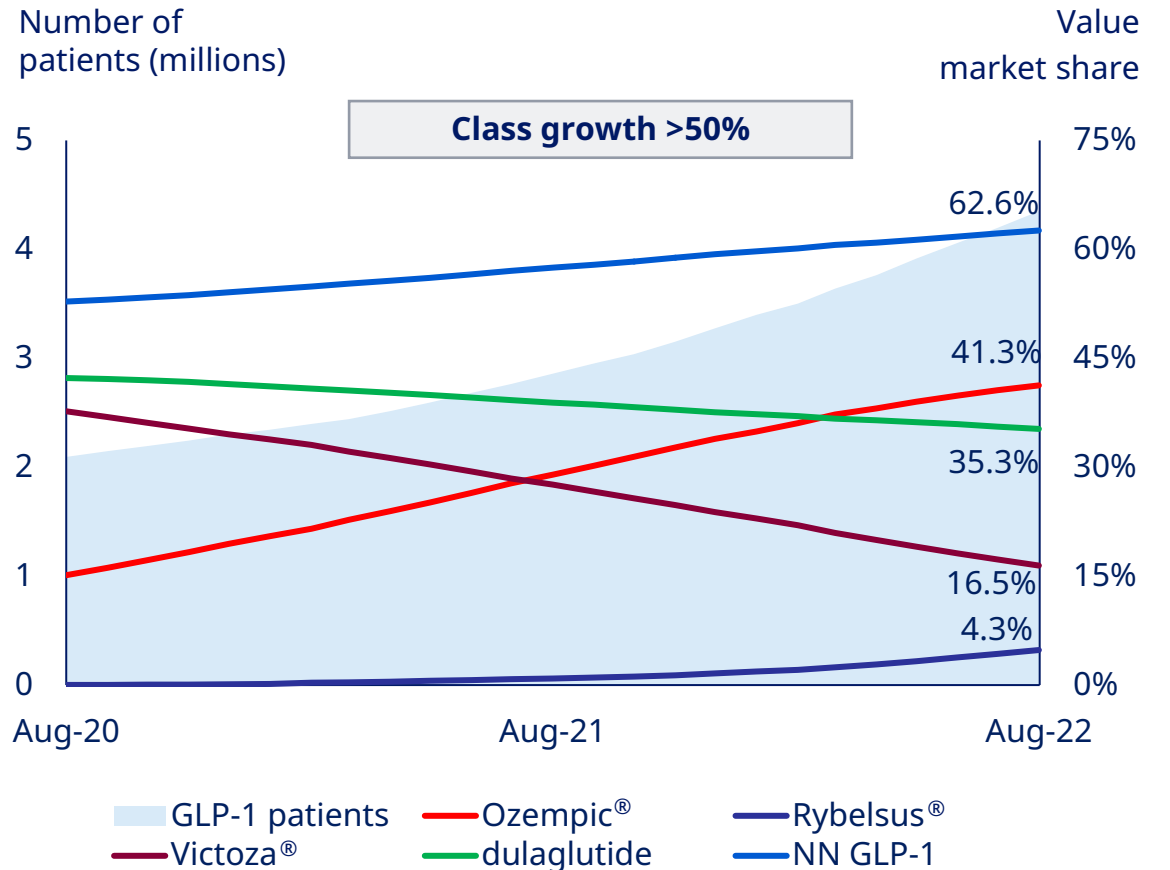
CER: Constant exchange rates; IO: International Operations; NAO: North America Operations  
 Source: IQVIA MAT, Aug 2022 (Spot rate)  
 Note: Sales growth rates are at CER

# International Operations diabetes care sales growth is driven by GLP-1 performance

Reported Diabetes care sales and growth per IO geography

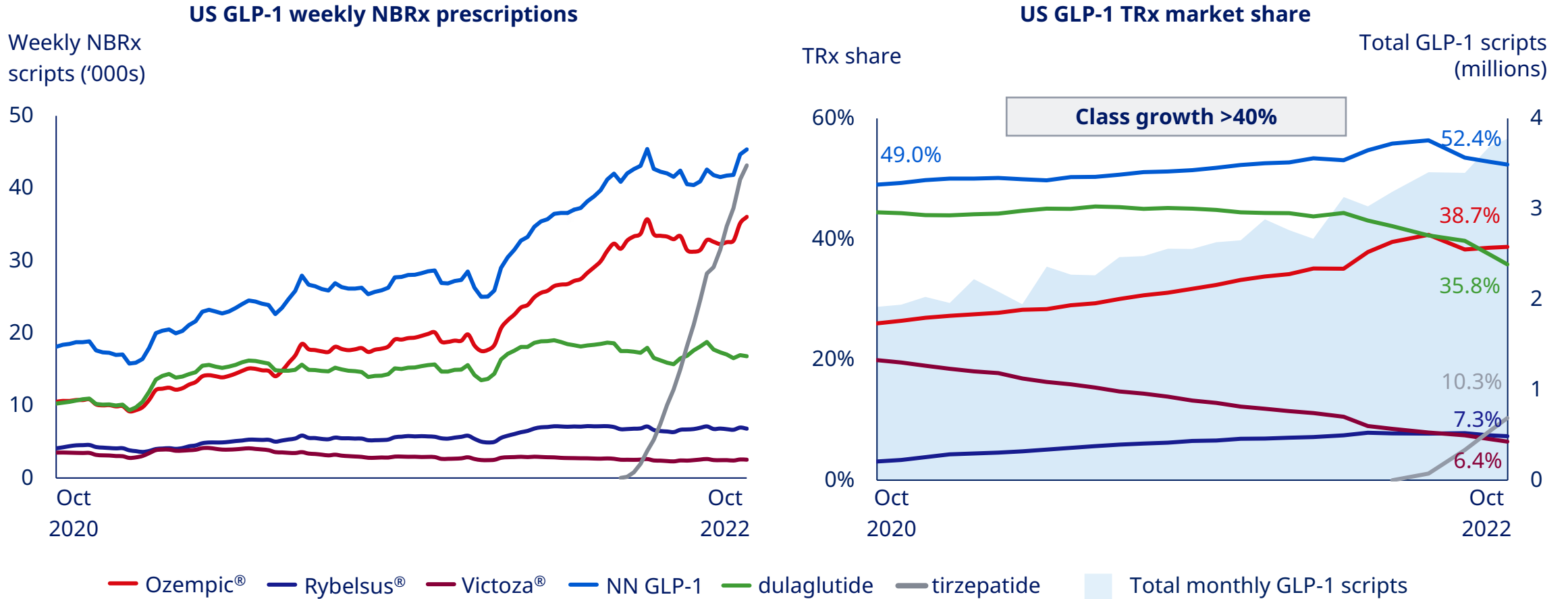


GLP-1 patients and value market share in IO



Source: IQVIA MAT, Aug 2022 (Spot rate). Note that the market share and patient numbers are based on countries with IQVIA coverage. GLP-1 class growth calculated as Jun-Aug 2022 vs Jun-Aug 2021 (Rolling 3 month average)  
 IO: International Operations; NN: Novo Nordisk; EMEA: Europe, Middle East and Africa; China: Mainland China, Hong Kong and Taiwan; RoW: Rest of World; R3M: Rolling three months

# GLP-1 class expansion continues in the US as new prescriptions have accelerated in the third quarter of 2022

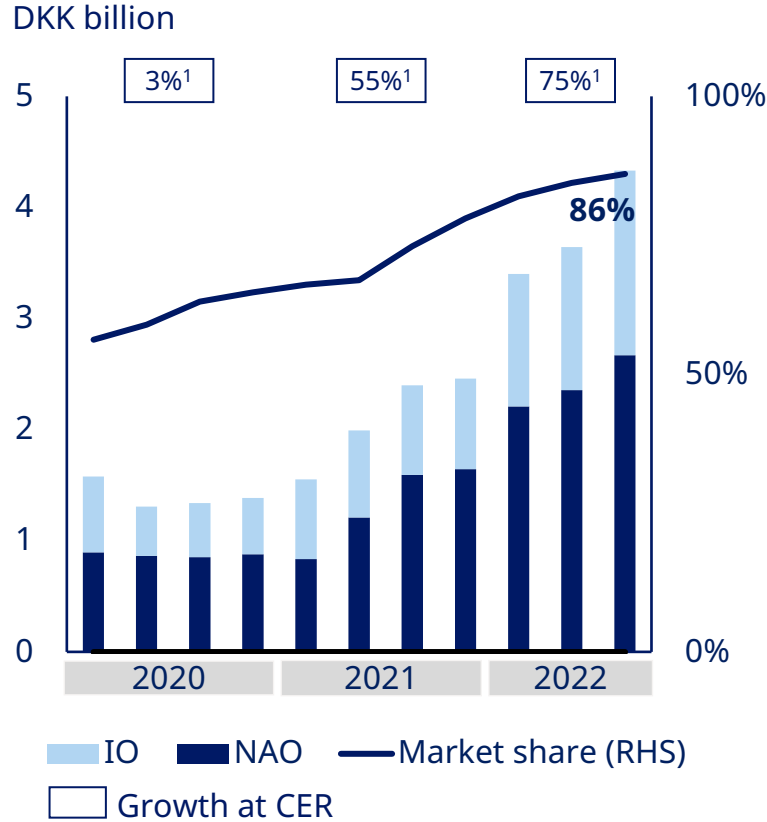


Source: IQVIA Xponent, Weekly (ending 14 Oct 2022) Each data points represents a rolling four-week average. Total GLP-1 scripts constitute all prescriptions of GLP-1 medications in the market and have the full month of September as latest available data point  
 NBRx: New-to-brand prescriptions; TRx: Total prescriptions; NN: Novo Nordisk; Scripts: Prescriptions  
 Note: Class growth calculated as Q3 2022 vs Q3 2021




# Obesity care sales grew by 75% in the first nine months of 2022 driven by both the US and IO

**NN sales and value market share within Obesity care**



**Global Branded AOM TRx**





**The US**

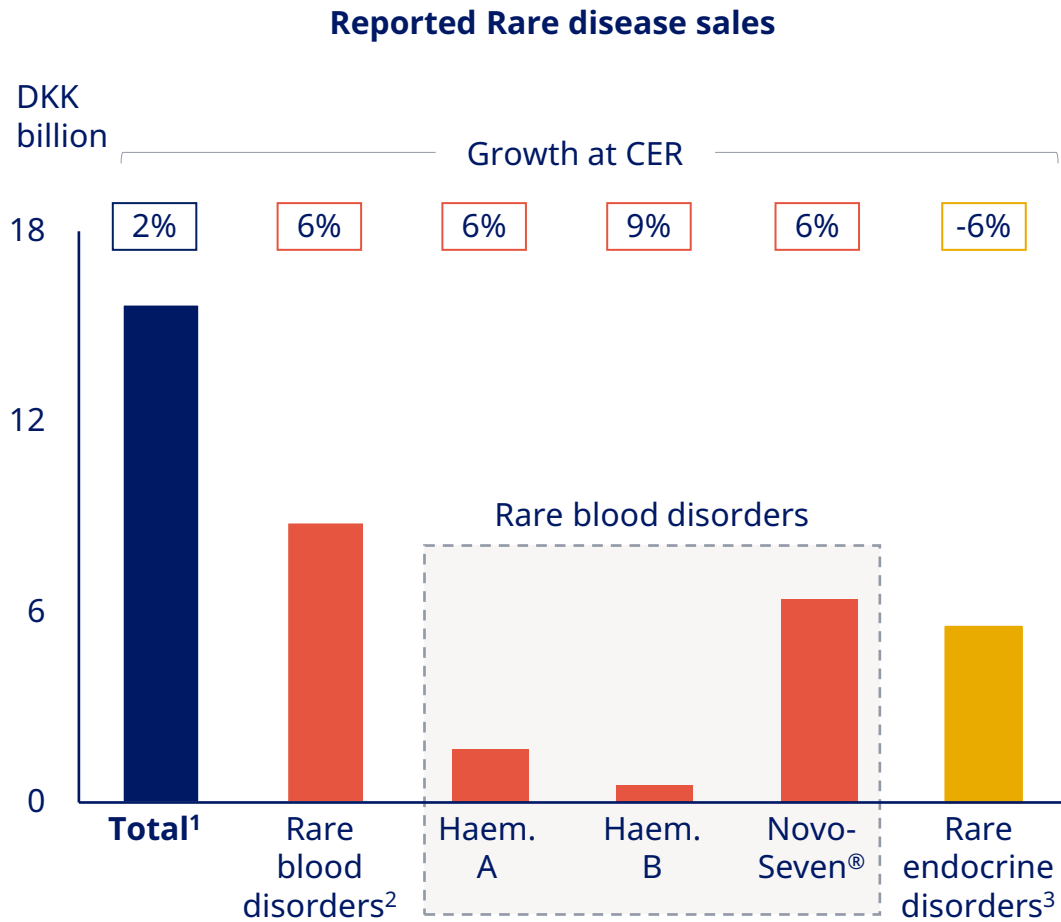
- Broad commercial formulary access of more than 80%
- The 1.7 mg and 2.4 mg doses are currently available in the US
- Expectation to make all Wegovy® doses available towards the end of 2022

**International Operations**

- Wegovy® available in France with first ex-US commercial launches expected towards the end of 2022

<sup>1</sup>Annual growth at CER. Each TRx data points represents one week of data  
 NAO: North America operations; IO: International operations; RHS: Right-hand side axis; Rx: Prescriptions; AOM: Anti-Obesity Medications (includes Wegovy®, Saxenda®, Qsymia, Belviq and Contrave); Mg: milligram; CMO: Contract manufacturing organisation  
 Note: Sales growth at constant exchange rates. 63% volume growth for Global branded AOM market refers to MAT.  
 Source: IQVIA MAT, Aug 2022 (Spot rate)

# Rare disease sales increased by 2% driven by International Operations



## Rare disease sales driven by global commercial execution

### Rare disease sales increase is driven by:

- 3% sales decline in North America Operations
- 4% sales growth in International Operations

### Rare blood disorders sales increased by 6%, driven by:

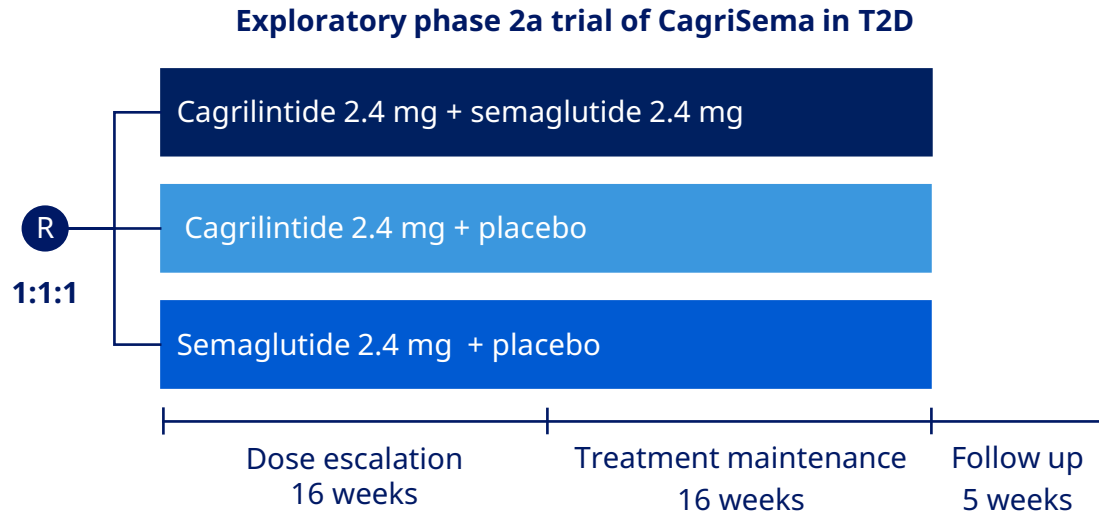
- NovoSeven® performance
- Uptake of launch products Esperoct® and Refixia®

### Rare endocrine disorders sales decreased by 6% driven by:

- North America Operations sales declined by 13%
- Novo Nordisk is the leading company in the global human growth disorder market with a value market share of ~36% which is comparable to last year

<sup>1</sup> Total includes "Other Rare disease", which consists of primarily Vagifem® and Activelyle®; <sup>2</sup> Comprises NovoSeven®, NovoEight®, Esperoct®, Refixia® and NovoThirteen®; <sup>3</sup> Primarily Norditropin®  
 Note: NovoThirteen® is not shown for Rare blood disorders breakdown, only for the total bar.  
 Haem. A: Haemophilia A; Haem. B: Haemophilia B; Unless otherwise specified, sales growth is at constant exchange rates

# Phase 2 trial for CagriSema in people with type 2 diabetes has been successfully completed

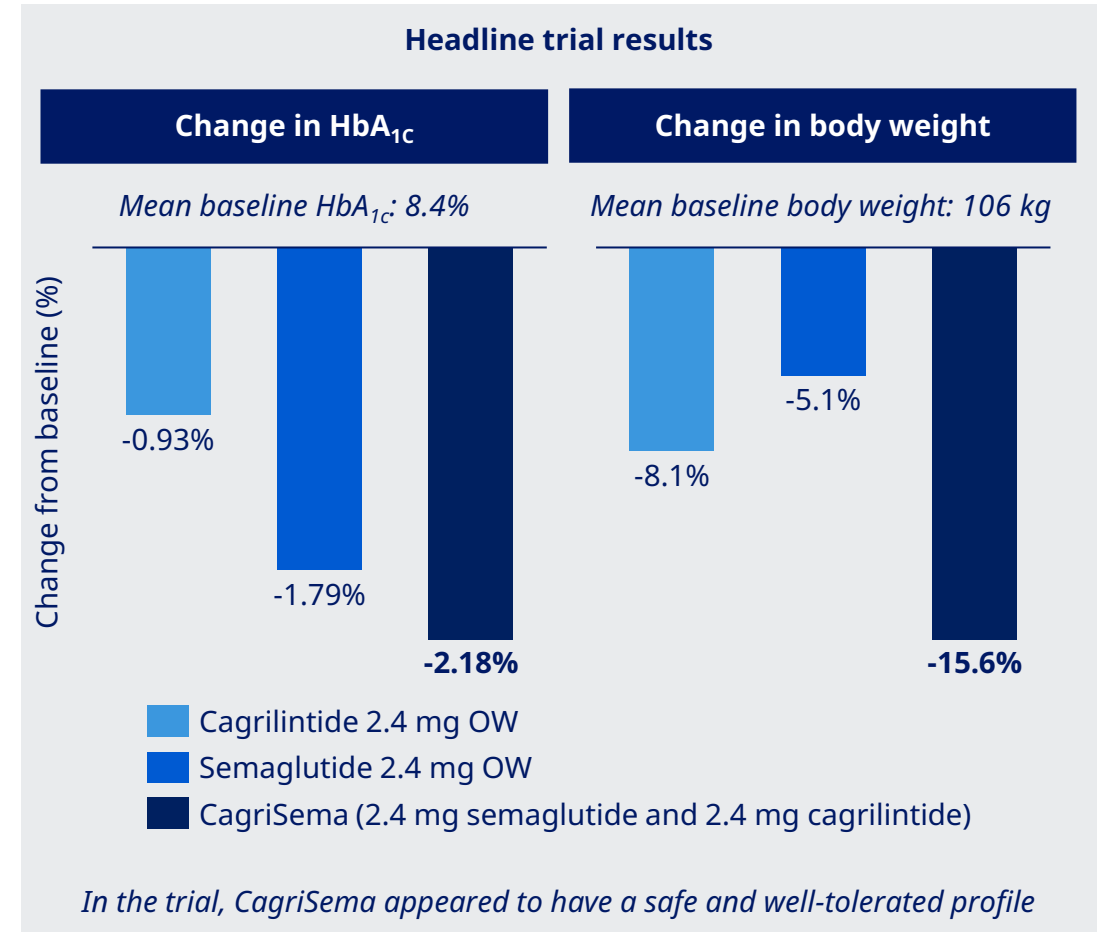


**Primary endpoint:**

Change from baseline (week 0) to week 32 in HbA<sub>1c</sub>

**Inclusion criteria (92 people):**

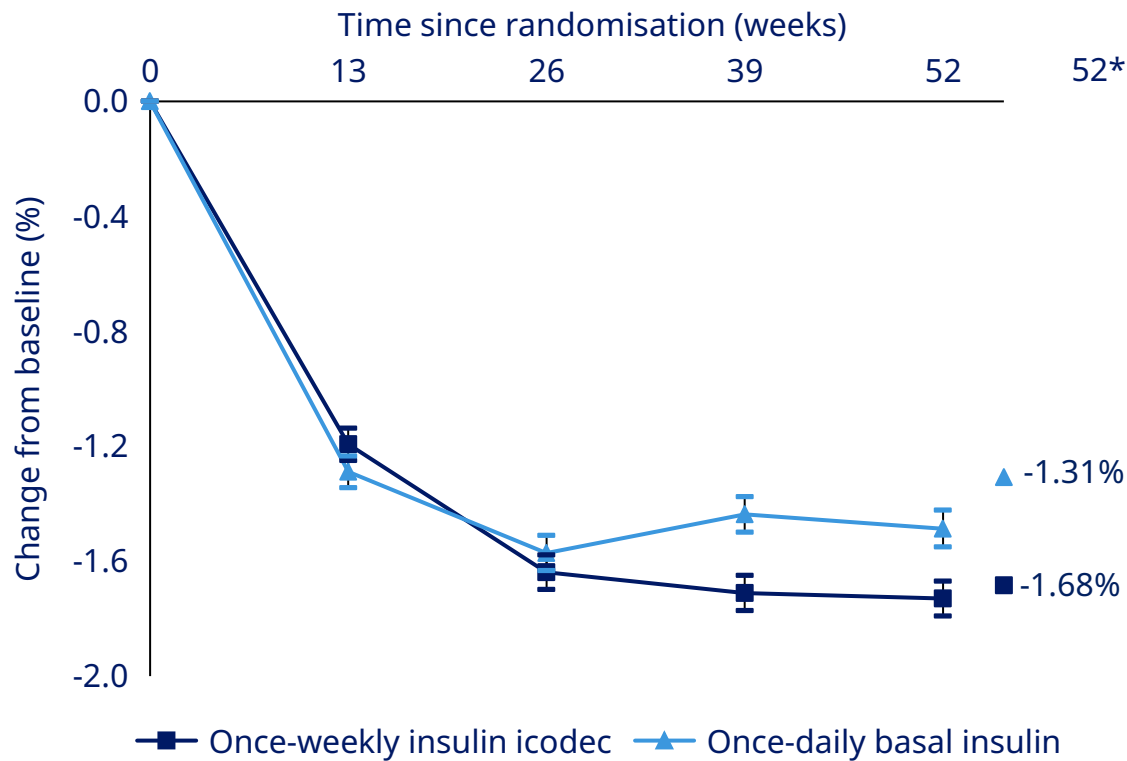
- Type 2 diabetes
- HbA<sub>1c</sub> 7.5–10.0%
- Metformin +/- SGLT2i
- BMI ≥27 kg/m<sup>2</sup>



Note: Trial product estimands shown; Trial objective: To compare the effect of co-administered (separate injections) semaglutide and cagrilintide versus semaglutide in subjects with T2D inadequately controlled on metformin with or without SGLT2 inhibitor  
 T2D: Type 2 diabetes, BMI: body mass index; HbA<sub>1c</sub>: Glycosylated haemoglobin; OW: Once-weekly

# ONWARDS 5 met its primary endpoint and demonstrated superior HbA<sub>1c</sub> reduction vs once-daily basal insulin analogues

Superior reduction in HbA<sub>1c</sub> from baseline over time 52 weeks



Note: Overall baseline HbA<sub>1c</sub> of 8.9%

## Highlights from the trial (includes real-world elements)

### Inclusion criteria (1,085 participants):

- Insulin-naïve people with type 2 diabetes
- No limitations on use of oral antidiabetic treatments
- Age ≥ 18 years, HbA<sub>1c</sub> > 7.0%

### Endpoints:

- Once-weekly insulin icodec achieved a superior reduction in estimated HbA<sub>1c</sub> of -1.68%-points compared with -1.31%-points for the once-daily basal insulins (ETD: -0.38%-points)
- Icodec achieved a superior improvement in health-related quality of life (DTSQ score) and compliance (TRIM-D score) questionnaires

### Safety:

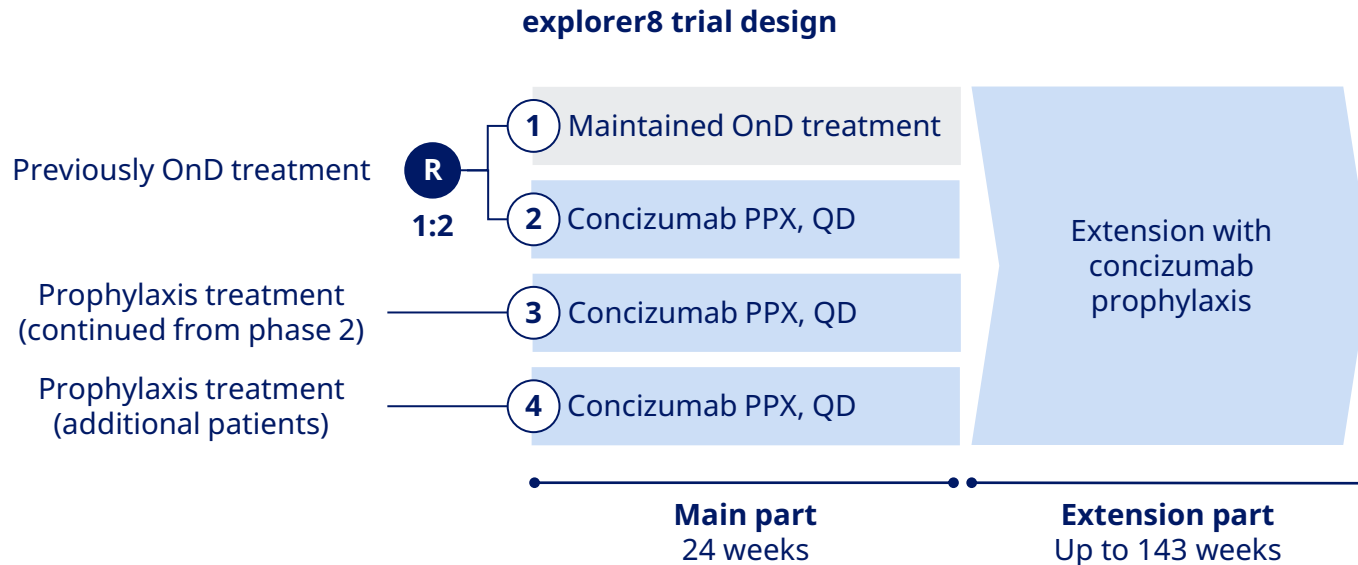
- No statistically significant difference in estimated rates of severe or clinically significant hypoglycaemia events
- In the trial, once-weekly insulin icodec appeared to have a safe and well-tolerated profile

\*Lines are based on observed data where the value denoted after 52 weeks is estimated mean value derived based on multiple imputation

ETD: Estimate treatment difference; DTSQ: Diabetes Treatment Satisfaction Questionnaire; TRIM-D: Treatment Related Impact Measures in Diabetes (measuring an overall treatment compliance score)

Note: The trial investigated once-weekly insulin icodec in combination with a dosing guide app versus once-daily basal insulin (insulin degludec or insulin glargine U100/U300) in a clinical practice setting

# Main part of the explorer8 trial with concizumab in people with HA or HB without inhibitors has been completed



<p><b>Key inclusion criteria:</b></p> <ul style="list-style-type: none"> <li>Aged ≥12 years with haemophilia A or haemophilia B, patients mainly from phase 2</li> </ul>	<p><b>Objective:</b></p> <ul style="list-style-type: none"> <li>Assess the efficacy of Concizumab PPX vs no PPX (OnD treatment) in reducing number of bleeding episodes</li> </ul>	<p><b>Endpoints:</b></p> <ul style="list-style-type: none"> <li>Number of treated bleeding episodes (spontaneous/traumatic)</li> </ul>
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**Key trial highlights**

**Efficacy**

- The trial met its primary endpoint, confirming superiority of concizumab prophylaxis compared to no PPX (OnD treatment)
- The secondary confirmatory endpoint, confirming non-inferiority of concizumab PPX to previous PPX factor treatment was not met

**Safety**

- Concizumab appeared to have a safe and well-tolerated profile with no thromboembolic events reported after the treatment restart<sup>1</sup>

**Next steps**

- Initial commercial launch for concizumab is expected to be focused on HwI followed by Haemophilia B
- Further assessment of development opportunities and submissions based on the results from the explorer8 trial

<sup>1</sup> Restart refers to the start of treatment with the new concizumab dosing regimen, which was implemented after the treatment pause  
 HA: Haemophilia A; HB: Haemophilia B; Prophylaxis: PPX; OnD: On-demand, QD: Once-daily

# R&D milestones

	Project	Q3 2022	Q4 2022	H1 2023
<b>Diabetes care</b>	<b>FDC Sema - OW GIP</b>			Phase 2 results
	<b>CagriSema in T2D</b>	✓ Phase 2 results		
	<b>Once weekly oral sema</b>	✓ Phase 1 initiation		
	<b>Insulin Icodec</b>	✓ Phase 3a results		Submission (US/EU/CN)
	<b>Higher doses injectable sema</b>	✓ Phase 2 initiation		
	<b>Oral sema (25/50mg)</b>			Phase 3 results
<b>Obesity care</b>	<b>CagriSema</b>		✓ Phase 3 initiation	
	<b>Oral sema 50 mg</b>			Phase 3 results
	<b>PYY 1875</b>			Phase 1/2 results
	<b>LA-GDF15</b>	✓ Phase 1 results		
<b>Rare disease</b>	<b>Nedosiran</b>	✓ Submission in PH 1 (US)		
	<b>Mim8</b>		✓ Phase 3 treatment <sup>2</sup>	
	<b>Concizumab</b>	✓ US/JP submission (HwI) ✓ Phase 3a results (HwoI)		EU submission (HwI)
<b>Other serious chronic diseases</b>	<b>Oral PCSK9i</b>	✓ Phase 2 results		

<sup>1</sup> Expected to be published in the given quarter or in the subsequent quarterly company announcement. <sup>2</sup> First patient first visit in Q4 2021, which is solely for baselining purposes; sema: semaglutide; HwI: Haemophilia with inhibitors; HwoI: Haemophilia without inhibitors, FDC: Fixed dose combination, OW: once weekly; T2DM: Type 2 Diabetes Mellitus; US: United States; EU: European Union; CN: China; JP: Japan

# Financial results – First nine months of 2022

In DKK million	First nine months of 2022	First nine months of 2021	Change (reported)	Change (CER)
<b>Sales</b>	128,862	102,467	26%	16%
<b>Gross profit</b>	108,676	85,050	28%	17%
<i>Gross margin</i>	84.3%	83.0%		
Sales and distribution costs	(32,474)	(25,376)	28%	19%
<i>Percentage of sales</i>	25.2%	24.8%		
Research and development costs	(15,962)	(12,140)	31%	26%
<i>Percentage of sales</i>	12.4%	11.8%		
Administration costs	(3,119)	(2,860)	9%	5%
<i>Percentage of sales</i>	2.4%	2.8%		
Other operating income and expenses	601	336	79%	58%
<b>Operating profit</b>	57,722	45,010	28%	14%
<i>Operating margin</i>	44.8%	43.9%		
Financial items (net)	(4,976)	957		
<b>Profit before income tax</b>	52,746	45,967	15%	
Income taxes	(10,813)	(9,102)	19%	
<i>Effective tax rate</i>	20.5%	19.8%		
<b>Net profit</b>	41,933	36,865	14%	
<b>Diluted earnings per share (DKK)</b>	18.42	15.98	15%	

# Financial outlook for 2022

## Expectations 2 November 2022

## Expectations 3 August 2022


	Expectations 2 November 2022	Expectations 3 August 2022
<b>Sales growth – at CER</b>	<b>14% to 17%</b>	12% to 16%
<b>Sales growth - reported</b>	<b>Around 10 percentage points higher</b>	Around 9 percentage points higher
<b>Operating profit growth – at CER</b>	<b>13% to 16%</b>	11% to 15%
<b>Operating profit growth - reported</b>	<b>Around 15 percentage points higher</b>	Around 14 percentage points higher
<b>Financial items (net)</b>	<b>Loss of around DKK 6.6 billion</b>	Loss of around DKK 5.5 billion
<b>Effective tax rate</b>	20% to 22%	20% to 22%
<b>Free cash flow</b>	<b>DKK 54 to 59 billion</b>	DKK 57 to 62 billion

Note: Changes since last highlighted in bold

The financial outlook is based on an assumption of a continuation of the current business environment and given the current scope of business activities and has been prepared assuming that currency exchange rates remain at the level as of 26 October 2022




# Strategic aspirations 2025




Purpose and sustainability (ESG)

- Progress towards zero environmental impact
- Being respected for adding value to society
- Being recognised as a sustainable employer




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 Rare disease 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
- More than 25 billion DKK in Obesity sales by 2025
- Secure a sustained growth outlook for Rare disease



Financials

- Deliver solid sales and operating profit growth
  - Deliver 6-10% sales growth in IO
  - Transform 70% of sales in the US<sup>1</sup>
- 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

<sup>1</sup> From 2015 to 2022, 70% of sales to come from products launched from 2015. IO: International Operations; CVD: Cardiovascular disease; NASH: Non-alcoholic steatohepatitis; CKD: Chronic kidney disease.  
 Note: The strategic aspirations are not a projection of Novo Nordisk's financial outlook or expected growth.

# Investor contact information

## Share information

Novo Nordisk's B shares are listed on the stock exchange in Copenhagen under the symbol 'NOVO B'. Its ADRs are listed on the New York Stock Exchange under the symbol 'NVO'.

For further company information, visit Novo Nordisk on:  
[www.novonordisk.com](http://www.novonordisk.com)

## Upcoming events

01 February 2023	Financial statement 2022
23 March 2023	Annual General Meeting
04 May 2023	Financial statement for the first three months of 2023
10 August 2023	Financial statement for the first six months of 2023
02 November 2023	Financial statement for the first nine months of 2023

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# Appendix

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# Novo Nordisk Corporate Strategy

## 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



## Rare disease

**Secure a leading position** by leveraging full portfolio and expanding into adjacent areas



## Other serious chronic diseases

**Establish presence** by building competitive pipeline and scientific leadership

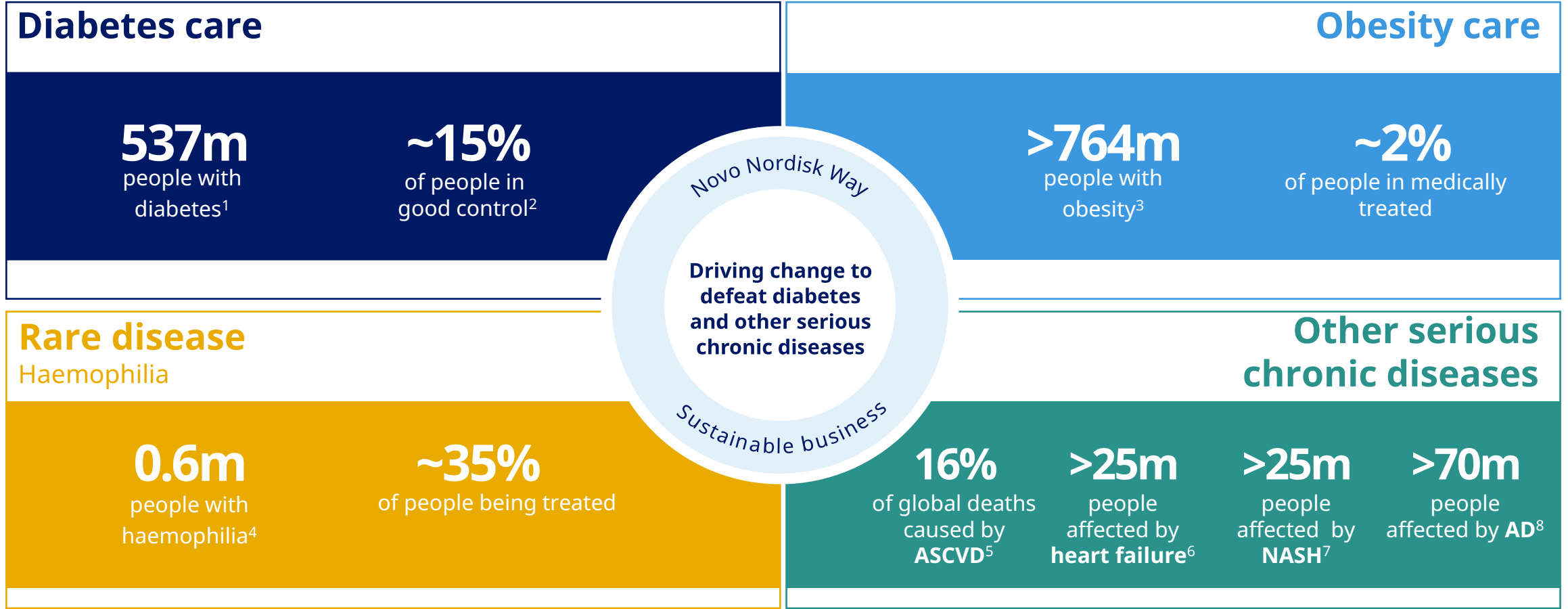


Novo Nordisk Way

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

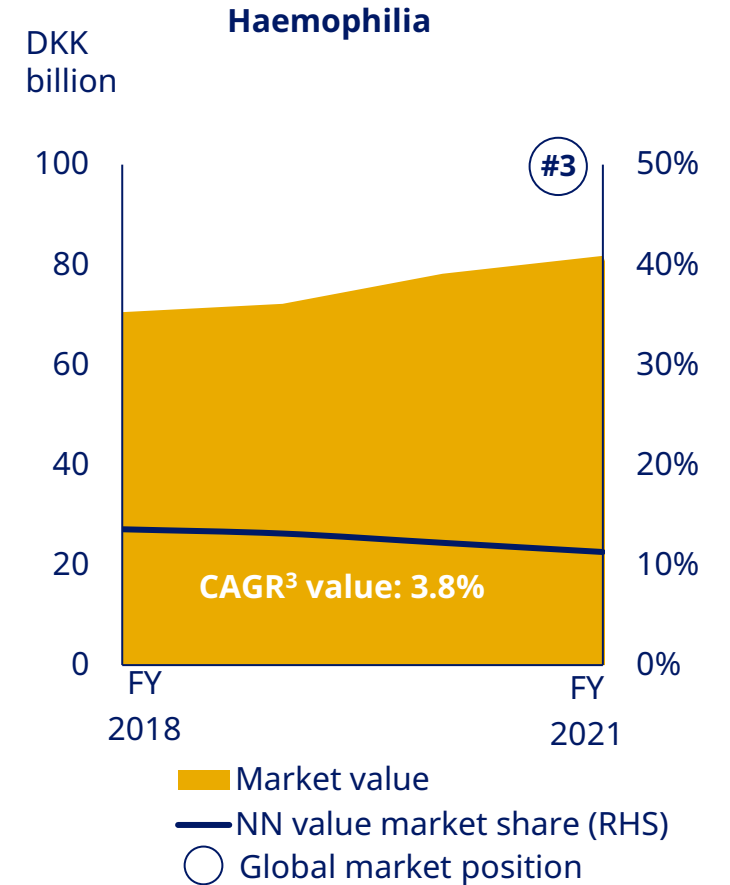
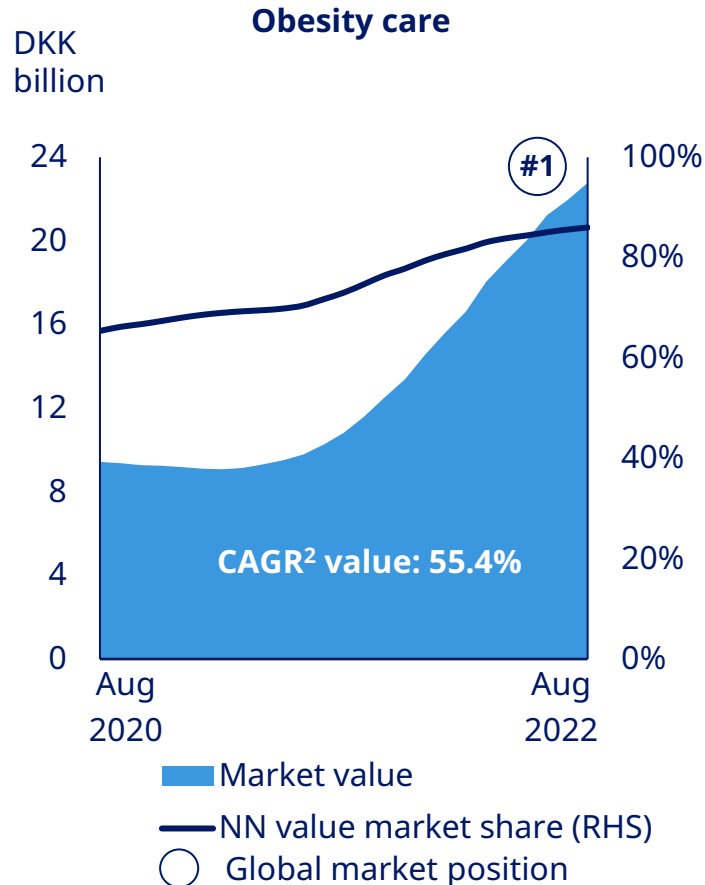
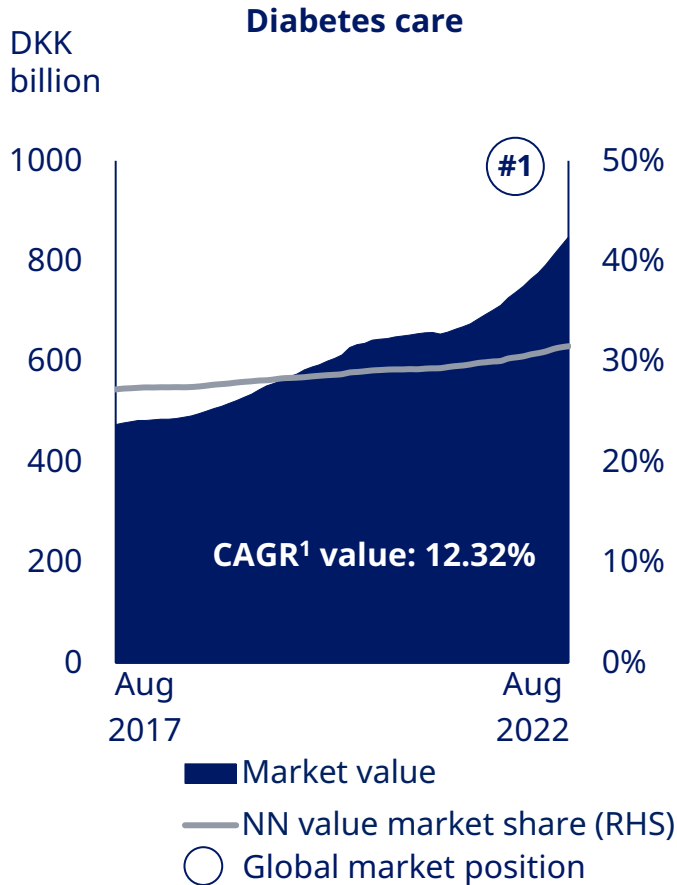
Sustainable business

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



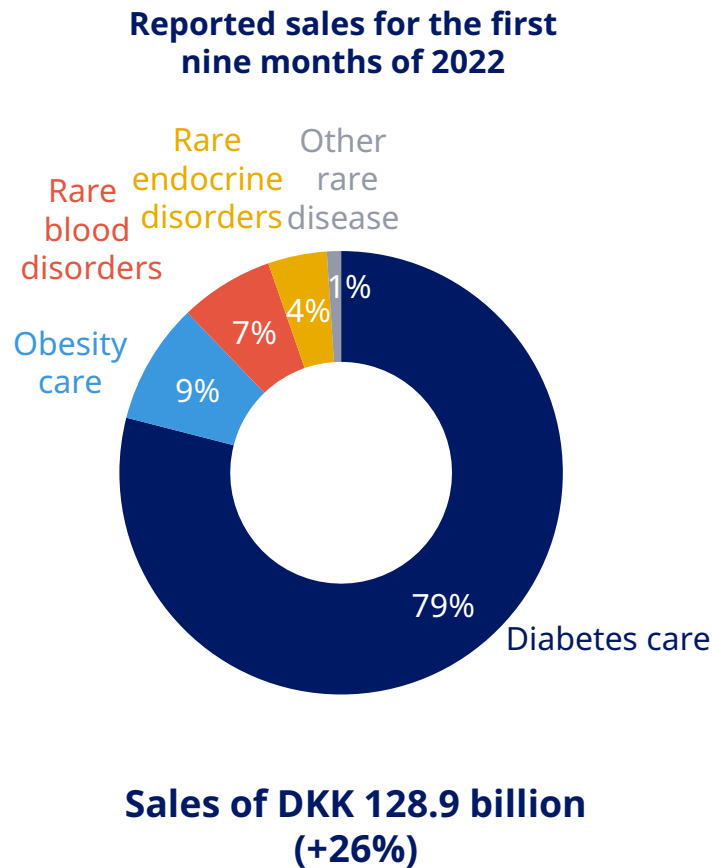
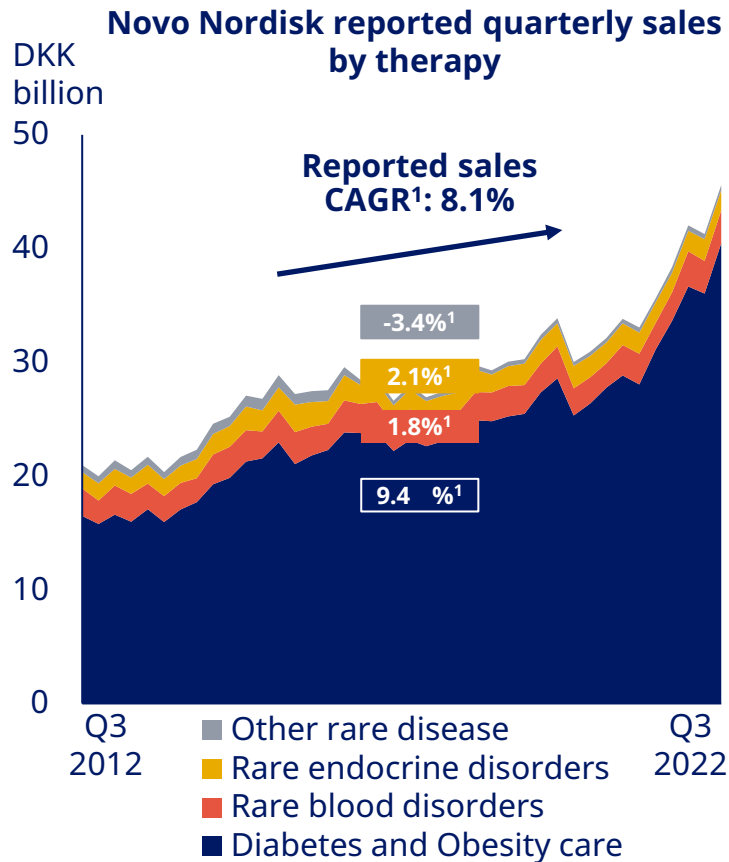
<sup>1</sup>International Diabetes Federation: Diabetes Atlas 10<sup>th</sup> edition, 2021; <sup>2</sup>Real-world studies indicate between 30-55% of patients reach HbA<sub>1c</sub> target <7% .e.g. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4388968/>, taking 42.5% in good control of treated people; <sup>3</sup>World Diabetes Atlas 2022; <sup>4</sup> WFH annual survey 2020 (120 of 147 countries responded): Prevalence by calculating expected number of patients using 20.9 per 100.000 in haemophilia Identified patients as proxy for receiving some sort of treatment; <sup>5</sup>"The top 10 causes of death", WHO, 9 December 2020 (ASCVD denoted as ischaemic heart disease); <sup>6</sup>Global Public Health Burden of Heart Failure, Apr. 2017: <https://pubmed.ncbi.nlm.nih.gov/28785469/>; <sup>7</sup>Estes C, Modeling the epidemic of non-alcoholic fatty liver disease demonstrates an exponential increase in burden of disease, Hepatology, 2018; <sup>8</sup>The World Alzheimer Report 2015, The Global Impact of Dementia, Alzheimer's Disease International (ADI), London.

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



<sup>1</sup> CAGR for 5-year period; <sup>2</sup> CAGR for 2-year period; <sup>3</sup> CAGR for 3-year period; RHS: Right-hand side; Note: Annual sales figures for haemophilia A, B and bypassing agent segments, Recombinant and plasma derived products; Source: Company reports for haemophilia market; IQVIA MAT, Aug 2022; Note: Diabetes and Obesity care market values are based on list prices in the US. NN: Novo Nordisk.

# Sales growth of 16%, driven by the GLP-1 portfolio for diabetes and obesity treatment

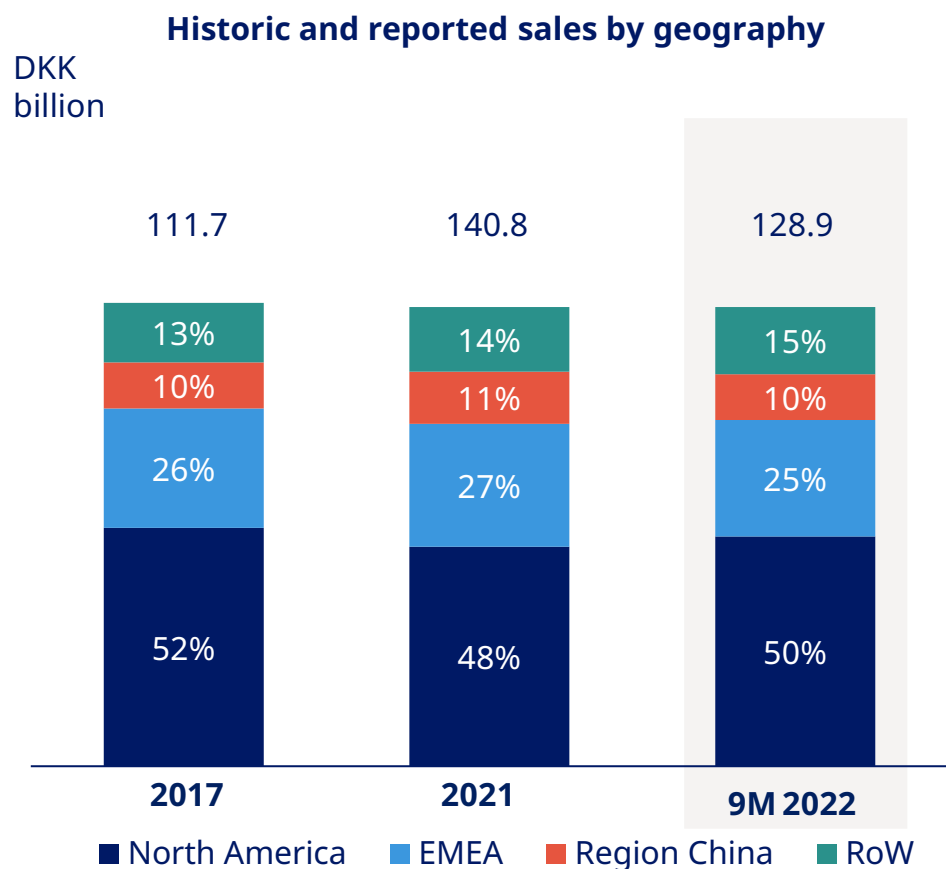


**Reported sales and growth breakdown for the first nine months of 2022**

Therapy	Sales (mDKK)	Growth	Share of growth
<b>Total GLP-1<sup>2</sup></b>	<b>59,019</b>	<b>44%</b>	<b>101%</b>
Long-acting insulin <sup>3</sup>	12,839	-10%	-8%
Premix insulin <sup>4</sup>	8,219	-10%	-5%
Fast-acting insulin <sup>5</sup>	12,992	-8%	-6%
Human insulin	6,216	-18%	-8%
<b>Total insulin</b>	<b>40,266</b>	<b>-11%</b>	<b>-27%</b>
Other Diabetes care <sup>6</sup>	2,512	-15%	-3%
<b>Total Diabetes care</b>	<b>101,797</b>	<b>14%</b>	<b>71%</b>
Obesity care <sup>7</sup>	11,376	75%	27%
<b>Diabetes and Obesity care</b>	<b>113,173</b>	<b>18%</b>	<b>99%</b>
Rare blood disorders <sup>8</sup>	8,825	6%	3%
Rare endocrine disorders <sup>9</sup>	5,536	-6%	-2%
Other Rare disease <sup>10</sup>	1,328	7%	1%
<b>Rare disease</b>	<b>15,689</b>	<b>2%</b>	<b>1%</b>
<b>Total</b>	<b>128,862</b>	<b>16%</b>	<b>100%</b>

<sup>1</sup> CAGR for 10-year period; <sup>2</sup> Comprises Victoza®, Ozempic®, Rybelsus®; <sup>3</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>4</sup> Comprises Ryzodeg® and NovoMix®; <sup>5</sup> Comprises Fiasp® and NovoRapid®; <sup>6</sup> Primarily Novonorm®, needles and GlucaGen® HypoKit®; <sup>7</sup> Comprises Saxenda® and Wegovy®; <sup>8</sup> Comprises NovoSeven®, NovoEight®, NovoThirteen®, Refixia®, and Esperoct®; <sup>9</sup> Comprises Norditropin® and Macrilen™; <sup>10</sup> Primarily Vagifem® and Activelle®  
 Note: Sales numbers are reported in Danish kroner; Growth is at constant exchange rate, except for total sales growth of 26%; Refixia® and NovoThirteen® are launched as Rebinyn® and TRETEN®, respectively, in North America.

# Sales growth of 16%, driven by both NAO and IO with 22% and 11% sales growth respectively



**Reported sales and growth breakdown for the first nine months of 2022**

Regions	Sales (mDKK)	Growth	Share of growth
<b>International Operations</b>	<b>64,415</b>	<b>11%</b>	<b>38%</b>
EMEA	32,722	13%	23%
Region China	12,845	-5%	-4%
RoW	18,848	22%	19%
<b>North America Operations</b>	<b>64,447</b>	<b>22%</b>	<b>62%</b>
Hereof USA	59,888	21%	55%
<b>Total sales</b>	<b>128,862</b>	<b>16%</b>	<b>100%</b>

Source: Quarterly company announcement

IO: International Operations; NAO: North American Operations; EMEA: Europe, Middle East, and Africa; RoW: Rest of World; Region China covers mainland China, Hong Kong and Taiwan; 9M: 9 months.

Note: Numbers may not add up to 100% due to rounding; Growth at Constant exchange rates; Sales numbers are reported in Danish kroner



# Novo Nordisk holds solid patent protection, high barriers to entry, and a collaborative approach to innovation

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



**EU/US patent protection<sup>1</sup>**  
2031/32<sup>2</sup>



2031/2032<sup>2,3</sup>



2030<sup>4</sup>



2034/32<sup>2</sup>



2028/29



2028/29



2028/29



2027/28



2023<sup>5</sup>

## Barriers to entry for biosimilar players

### Research & Development

- Need to show comparability in PK/PD trials
- Strict regulatory requirements in the EU and the US
- Requirement for both drug and device offering

### Manufacturing

- Economies of scale
- Up-front CAPEX requirements with slow return on investment

### Commercialisation

- Large and fragmented target audience
- Cost pressure from payers
- On-going conversion to next-generation drugs and slow market dynamics

## Partnerships and acquisitions support future R&D

siRNA treatments



Combination treatments for NASH



Oral formulations of therapeutics



Gene editing for haemophilia



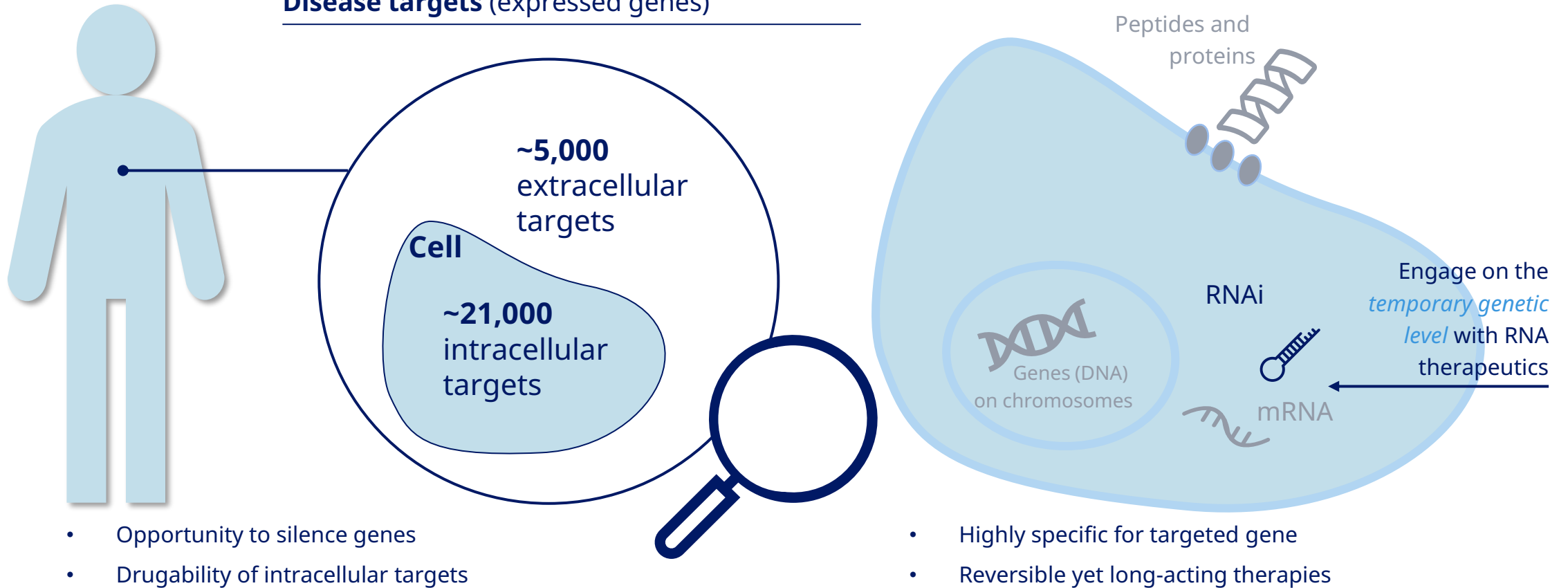
Novel treatments for CVD/Rare disease



<sup>1</sup> List does not include all marketed products. <sup>2</sup> Current estimates. Wegovy® patent identical to Ozempic® patent; <sup>3</sup> Tablet formulation and once-daily treatment regimen are protected by additional patents expiring in 2031-2034; <sup>4</sup> Formulation patent; active ingredient patent has expired; <sup>5</sup> Saxenda® patent identical to Victoza® patent. PK: Pharmacokinetic, PD: Pharmacodynamic; CAPEX: Capital expenditure; siRNA: Silencing ribonucleic acid; NASH: Non-alcoholic steatohepatitis; CVD: Cardiovascular disease

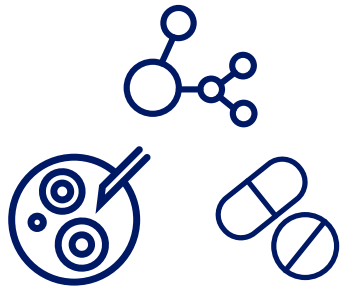
# The acquisition of Dicerna Pharmaceuticals and their RNAi technology in 2021 provided access to intracellular targets

## Disease targets (expressed genes)



# Novo Nordisk's core capabilities provide a competitive advantage to continue to defeat diabetes

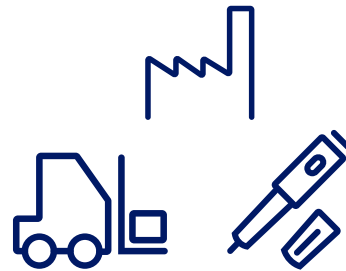
**Engineering, formulating, developing and delivering protein-based treatments**



**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 and continue efficiency gains

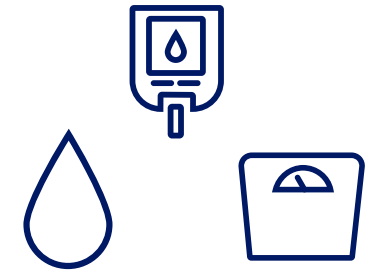
**Global commercial reach and leader in chronic disease care**



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

**Tomorrow:** Continued rollout of portfolio and launch of new products

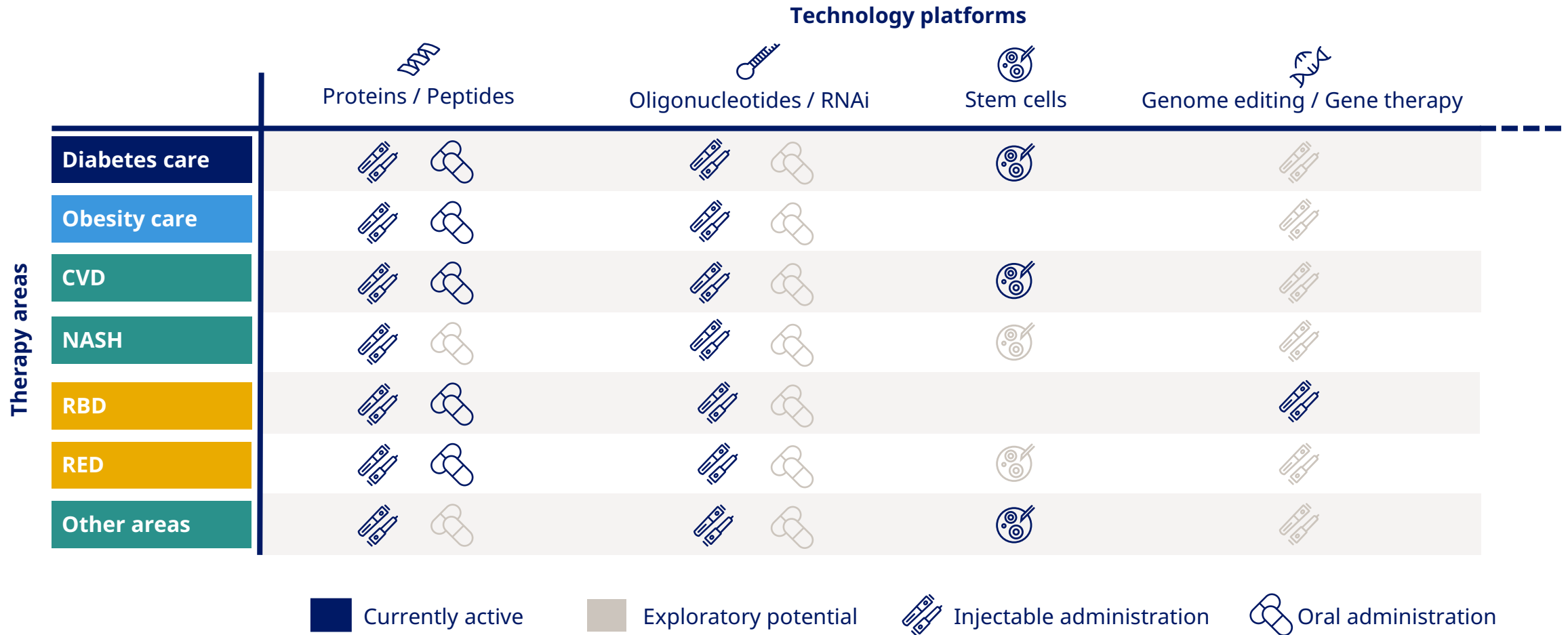
**Deep disease understanding**



**Today:** Provide value and outcomes beyond HbA<sub>1c</sub> for diabetes

**Tomorrow:** Normalise living with diabetes supported by digital solutions

# Core capabilities and additional technology platforms open up new opportunities across therapy areas

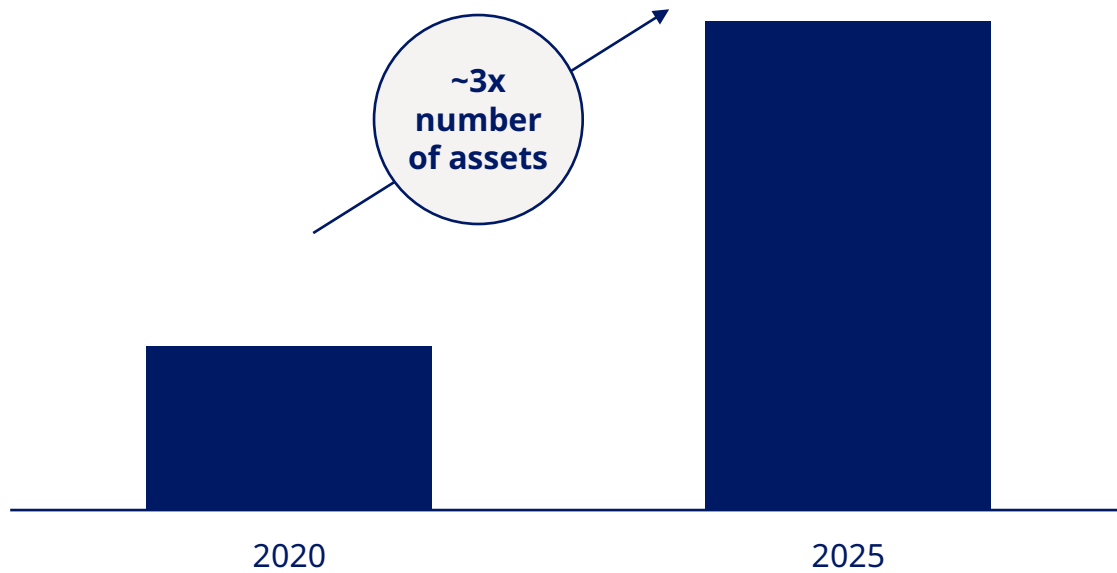


Note: Currently active means Novo Nordisk is currently pursuing research projects, while exploratory potential indicates that the platform is potentially applicable for the given disease  
 RBD: Rare blood disorders; RED: Rare endocrine disorders; CVD: Cardiovascular disease; NASH: Non-alcoholic steatohepatitis; RNA: Ribonucleic acid

# Human data-driven decision-making with faster timelines to enable a robust development pipeline

Speed up time to reach FHD and increase number of phase 1 assets

ILLUSTRATIVE



Future Research & early development trends for Novo Nordisk

- More first human doses pursued to enable a robust late-stage pipeline
- Around 3x faster timeline from lead candidate to first human dose
- First human doses with the new technologies, cell-based therapies and RNAi, expected in 2022
- Ambition of generating first human dose projects on average per year across disease areas with the RNAi platform

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

## PHASE 1

NN1845 – GSI  
 NN1471 – Ideal Pump Insulin  
 NN9041 – DNA Immunotherapy  
 NN9541 – Oral GLP-1/GIP co-agonist  
 NN9917 – SemaDapa FDC  
 NN9904 – Once weekly oral sema  
 NN9847 – Oral Amycretin  
 NN6020 – DCR-AUD<sup>1</sup>

## PHASE 2

NN9389 – FDC Sema – OW GIP  
 NN9388 – Cagrisema  
 NN9775 – PYY 1875 analogue  
 NN7533 – NDEC  
 NN7535 – Etavopivat  
 NN9931 – Gilead NASH  
 NN9500 – FGF-21 NASH  
 NN6021 – Belcesiran  
 NN6019 – ATTR Cardiomyopathy

## PHASE 3

NN1535 – Icosema  
 NN1436 – Insulin Icodec  
 NN9924 – Oral Semaglutide 25 and 50 mg  
 NN9838 – Cagrisema  
 NN9932 – Oral Semaglutide 50mg obesity<sup>2</sup>  
 NN9931 – Semaglutide NASH  
 NN6535 – Semaglutide in AD  
 NN6018 – Ziltivekimab  
 NN7769 – Mim8  
**Other PHASE 3 trials**  
 SOUL - Oral semaglutide 14.0 mg CVOT  
 FOCUS - Semaglutide 1.0 mg in diabetic retinopathy  
 FLOW - Semaglutide 1.0 mg in chronic kidney disease  
 STRIDE – Semaglutide 1.0 mg in peripheral arterial disease  
 STEP – Semaglutide 2.4mg in HFpEF  
 SELECT – Semaglutide 2.4mg in obese population

## SUBMITTED

NN8640 – Sogroya® – QW GHD<sup>3</sup>  
 NN7415 – Concizumab<sup>4</sup>  
 NN7022 – Nedosiran

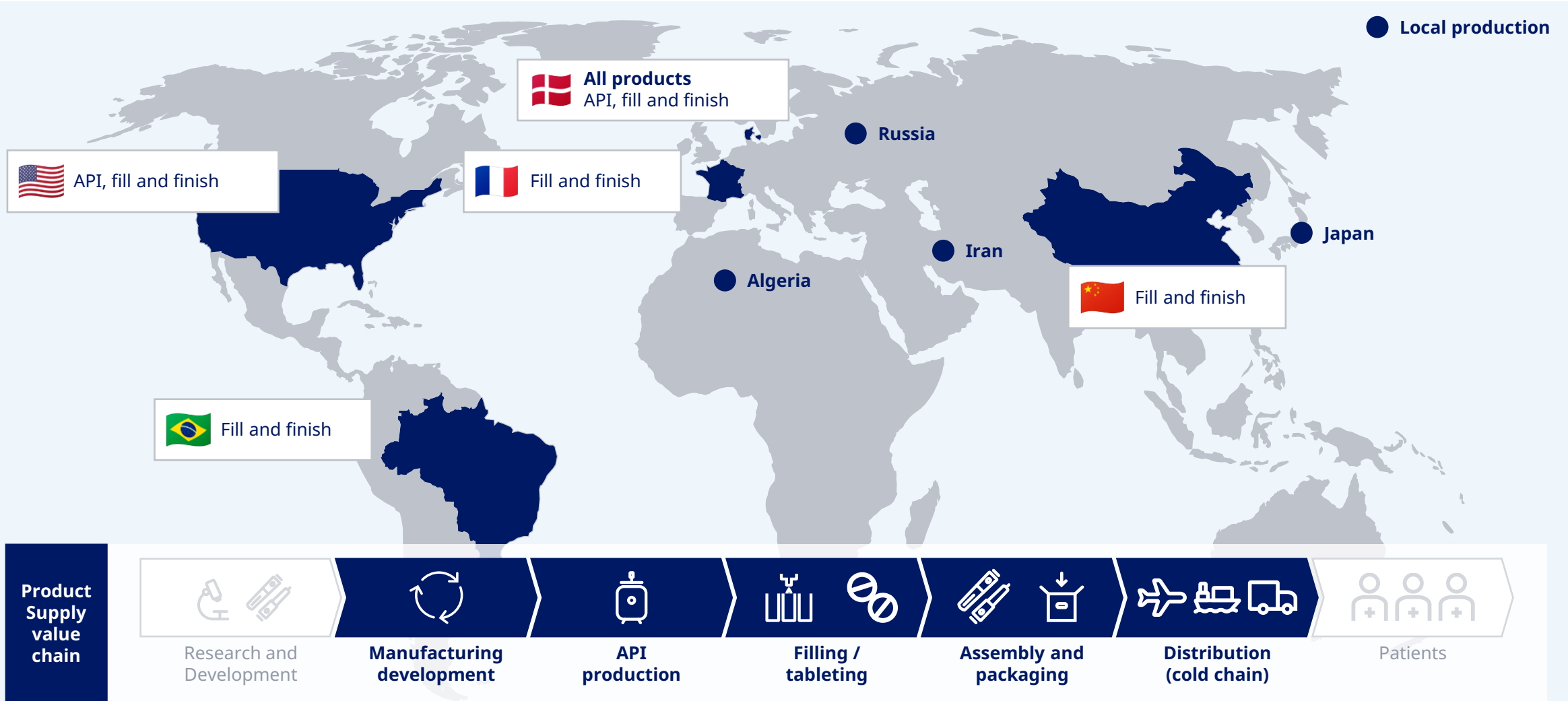
## APPROVED

Tresiba®  
 Xultophy®  
 Levemir®  
 Ryzodeg®  
 NovoMix®  
 Fiasp®  
 NovoRapid®  
 Rybelsus®  
 Ozempic®<sup>6</sup>  
 Victoza®  
 Wegovy®  
 Saxenda®  
 NovoSeven®  
 NovoEight®  
 Esperoct®  
 NovoThirteen®  
 Refixia®  
 Norditropin®  
 Sogroya®<sup>5</sup>

Diabetes care
  Obesity care
  Rare blood disorders
  Rare endocrine disorders
  Other serious chronic diseases

<sup>1</sup> Dicerna-Alcohol Use Disorder; <sup>2</sup> 25 mg trial also initiated; <sup>3</sup> Study conducted in growth hormone disorders; <sup>4</sup> Submitted to US/JP in HwI; <sup>5</sup> Approved in the EU, the US and Japan, for adult growth hormone disorder; <sup>6</sup> higher doses of injectable semaglutide (8 mg and 16 mg) tested in phase 2; PYY: Peptide YY; QW: Once-weekly; mAb: monoclonal antibody; GDF15: Growth differentiation factor 15; Sema: Semaglutide; FGF-21: Fibroblast growth factor 21; LAI: Long-acting insulin; GHD: Growth hormone disorder; GSI: Glucose Sensitive Insulin; HFpEF: heart failure with preserved ejection fraction; AD: Alzheimer’s Disease; FDC: Fixed-dose combination; NASH: Nonalcoholic Steatohepatitis; US: United States; JP: Japan

# Novo Nordisk has a global manufacturing setup



# Diabetes care

Disease and market	33
GLP-1 segment	42
Insulin segment	49



SIMONE LENSBOLE  
Simone lives with type 2 diabetes  
Denmark



# Diabetes – the inability to manage blood sugar levels appropriately

## Facts about diabetes

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin produced by the pancreas

### Primary classifications:

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

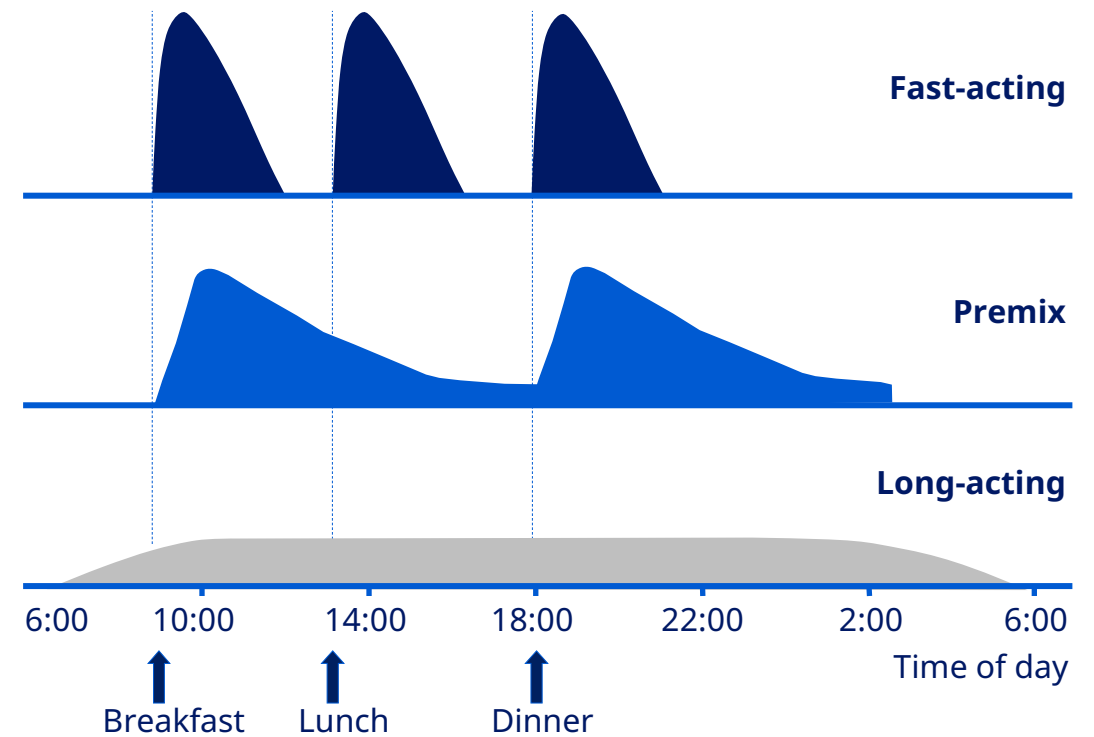
**Type 2 diabetes:** Characterised by some degree of insulin resistance and insulin deficiency

### Insulin:

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



## Insulin action profiles

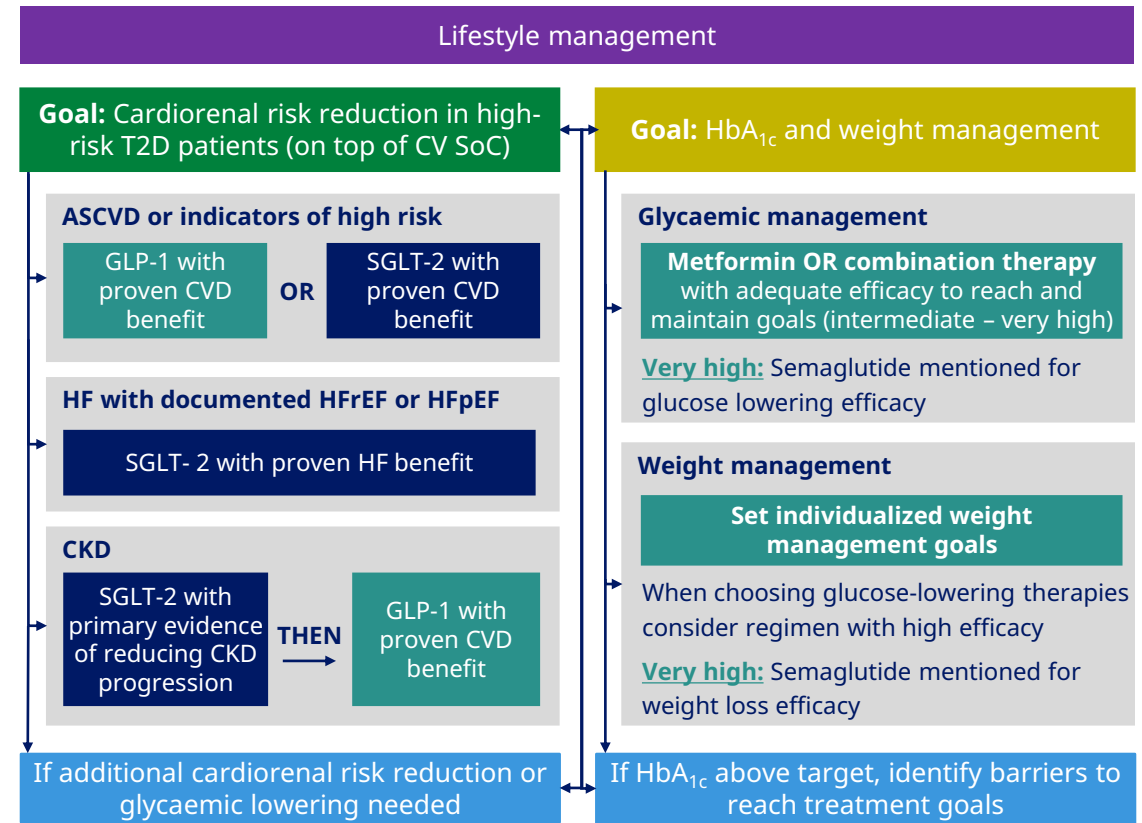


# GLP-1s have positive effects beyond glycaemic control and treatment guidelines now reflect the CV risk benefits

## Medications for treatment of type 2 diabetes

Class	Efficacy	Hypo risk	Weight change	Cardiovascular effects	
				ASCVD	HF
Metformin	High	No	Neutral	Potential Benefit	Neutral
Sulfonylurea	High	Yes	Gain	Neutral	Neutral
TZDs	High	No	Gain	Potential Benefit	Increased risk
DPP-IV inhibitors	Intermediate	No	Neutral	Neutral	Potential risk
SGLT-2 inhibitors	Intermediate	No	Loss	Benefit	Benefit
GLP-1	High	No	Loss	Benefit/Neutral <sup>1</sup>	Neutral
Long-acting insulin	High	Yes	Gain	Neutral	Neutral
Fast-acting insulin	High	Yes	Gain	Neutral	Neutral

## Updated ADA/EASD diabetes treatment guidelines

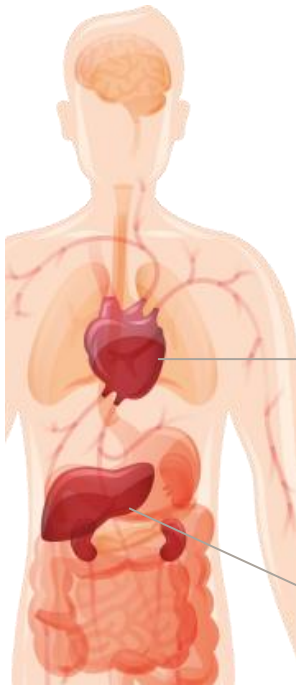


<sup>1</sup> Benefit: dulaglutide, liraglutide, semaglutide; Neutral: exenatide once weekly, lixisenatide  
 Hyp: Hypoglycaemia; ASCVD: Atherosclerotic cardiovascular disease; HF: Heart failure; TZDs: Thiazolidinediones  
 Source: Adapted from: "Standards of Medical Care in Diabetes – 2022" Supplement 1, p.133; diabetes.org. American Diabetes Association.

T2D: Type 2 diabetes; CVD: Cardiovascular Disease; SoC: Standard of Care; HF: Heart failure; CKD: Chronic Kidney Disease; ADA: American Diabetes Association; EASD: European Association for the Study of Diabetes  
 Sources Adapted from: "Management of Hyperglycemia in Type 2 Diabetes, 2022. A Consensus Report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)", Davies MJ. Et al, Diabetes Care 2022 (<https://doi.org/10.2337/dci22-0034>)

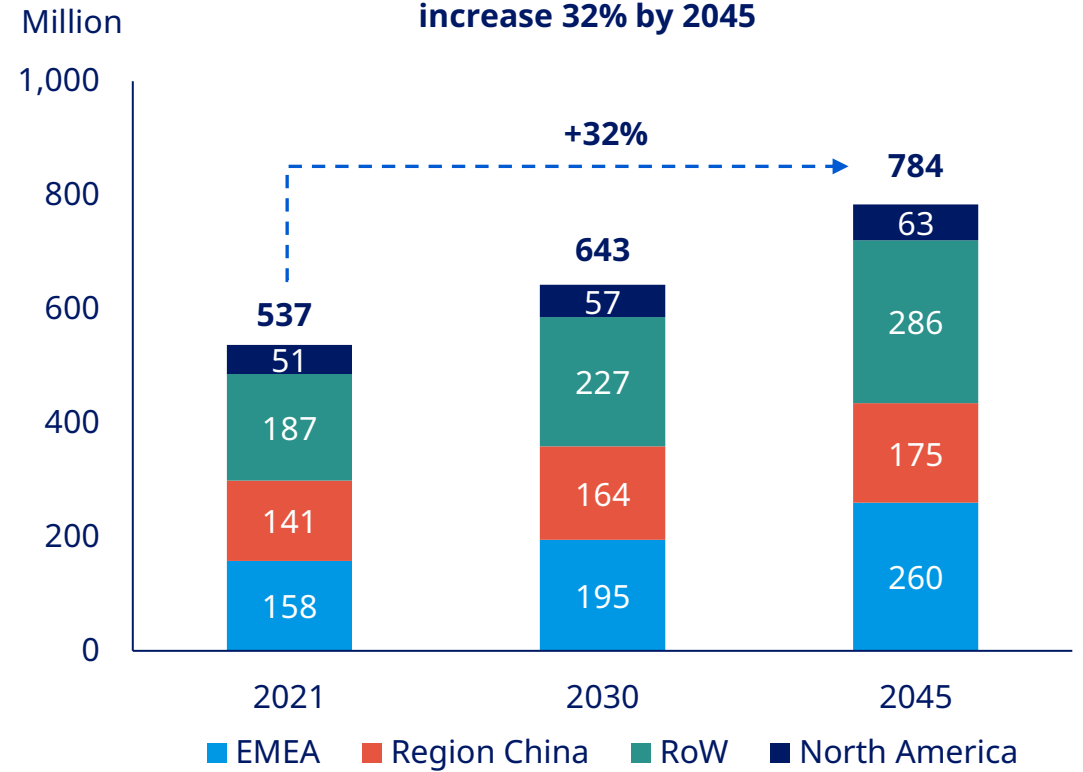
# People with diabetes have increased mortality risk, and the diabetic population is expected to increase to 784 million by 2045

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



<p><b>Diabetes</b></p>	<ul style="list-style-type: none"> <li>• <b>Life expectancy</b> 8 years shorter<sup>1</sup></li> <li>• Driven by <b>200%</b> increased risk of <b>all cause mortality</b><sup>1</sup></li> </ul>
<p><b>CVD</b></p>	<ul style="list-style-type: none"> <li>• <b>70%</b> of people with diabetes die from <b>atherosclerotic CVD</b><sup>2</sup></li> <li>• <b>150%</b> increase in risk of stroke<sup>3</sup></li> </ul>
<p><b>Organs</b></p>	<ul style="list-style-type: none"> <li>• Higher likelihood of neuropathy, retinopathy, limb amputation, cancer and cognitive dysfunction<sup>4</sup></li> </ul>

## The number of people with diabetes is expected to increase 32% by 2045

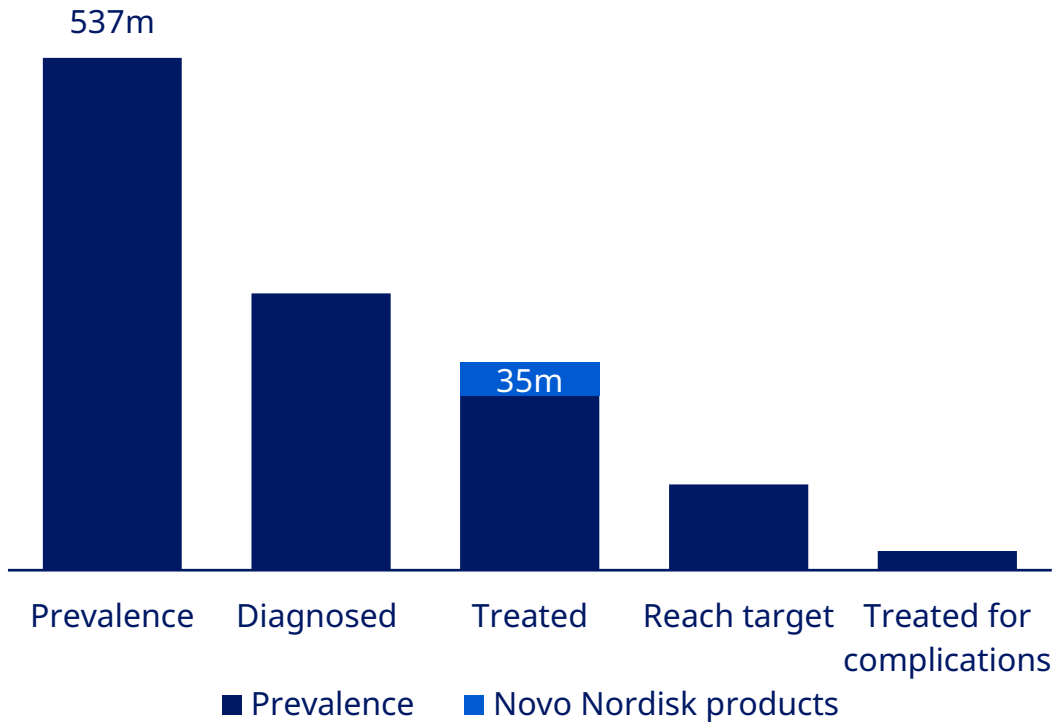


<sup>1</sup> Diabetes Care 2017 Mar; 40 (3): 338-345; <sup>2</sup> [https://www.who.int/cardiovascular\\_diseases/en/](https://www.who.int/cardiovascular_diseases/en/); <sup>3</sup> <https://www.diabetes.org/diabetes/complications.>; CVD: Cardiovascular disease; OAD: Oral anti-diabetic <sup>4</sup> Diabetes Care 2005 Jan;28(1):164-176

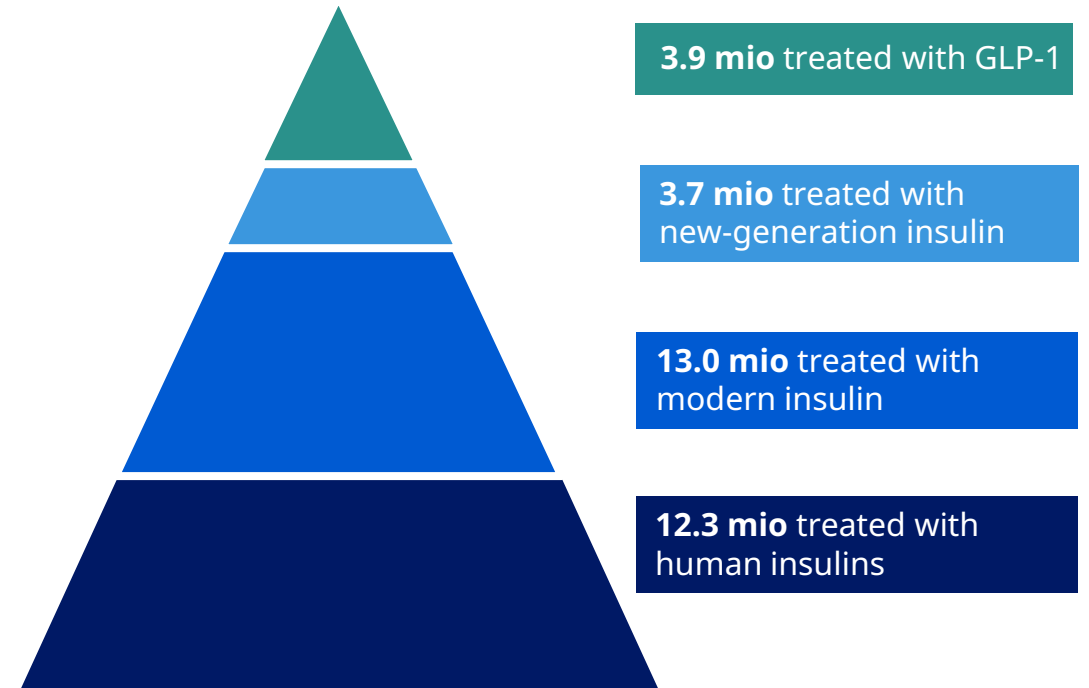
Source: International Diabetes Federation: Diabetes Atlas 10<sup>th</sup> Edition 2021  
EMEA: Europe, Middle East, Africa; RoW: Asia Pacific, Latin America

# The unmet need within diabetes care remains large with too few patients reaching target and treated for complications

**1 in 2 adults go undiagnosed and more treated patients should reach their HbA<sub>1c</sub> target**



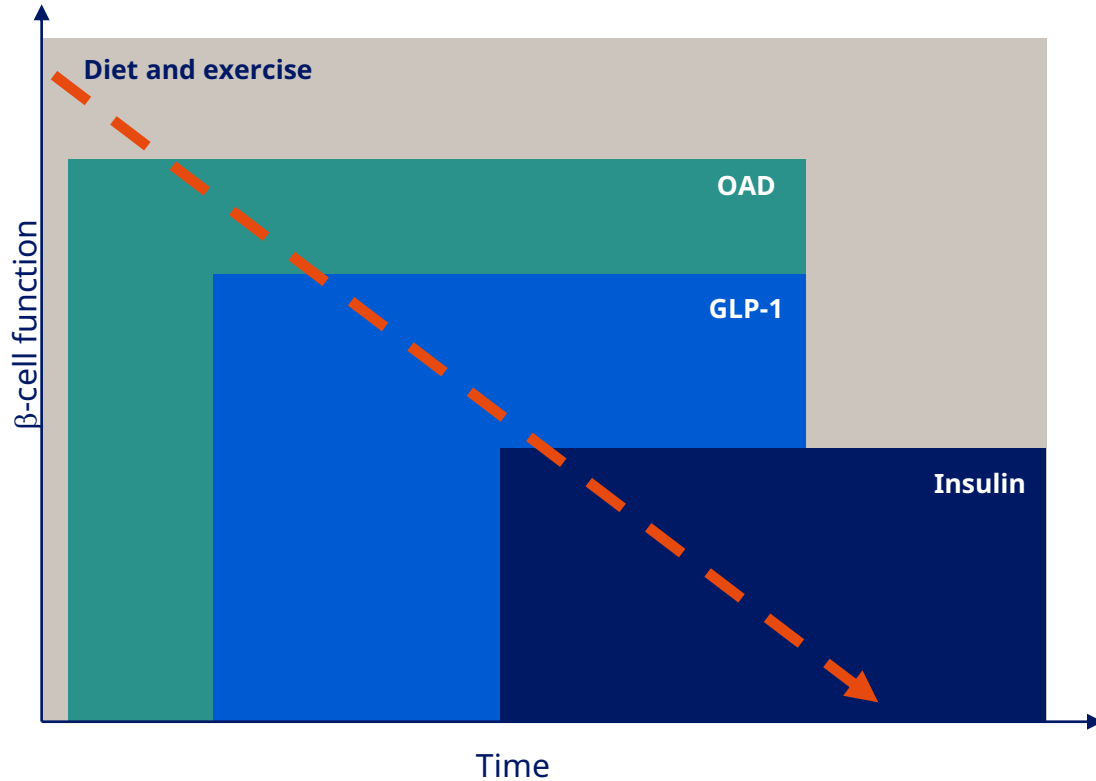
**Of the 537 million, 34.6 million<sup>1</sup> people are currently treated with Novo Nordisk diabetes products**



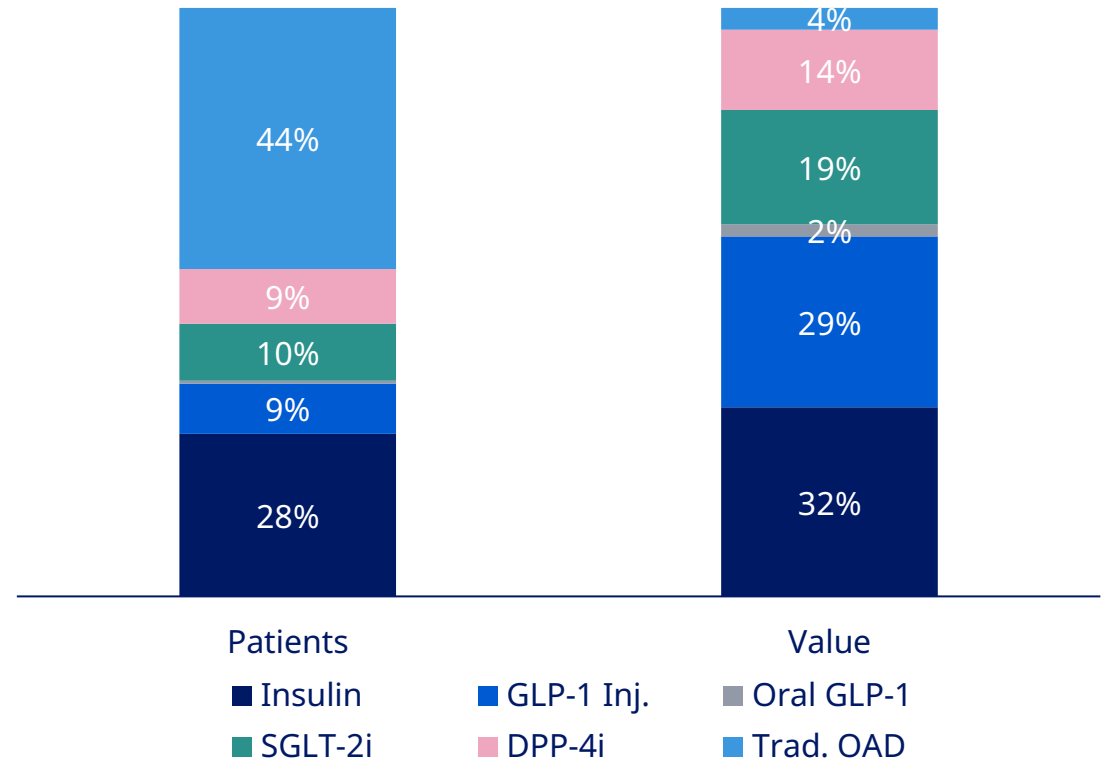
Source : Diabetes prevalence and diagnosed are based on Diabetes Atlas 10<sup>th</sup> edition, 2021; Treated is based on IQVIA patient data; real-world studies indicate between 30-55% of patients reach HbA<sub>1c</sub> target <7% .e.g. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4388968/>

<sup>1</sup> In addition to the above-mentioned product classes, oral anti-diabetics constitutes the remainder of people treated with Novo Nordisk products; Estimated number for full-year 2021. Source: Novo Nordisk Annual Report 2021

# Diabetes is a chronic disease requiring treatment intensification over time

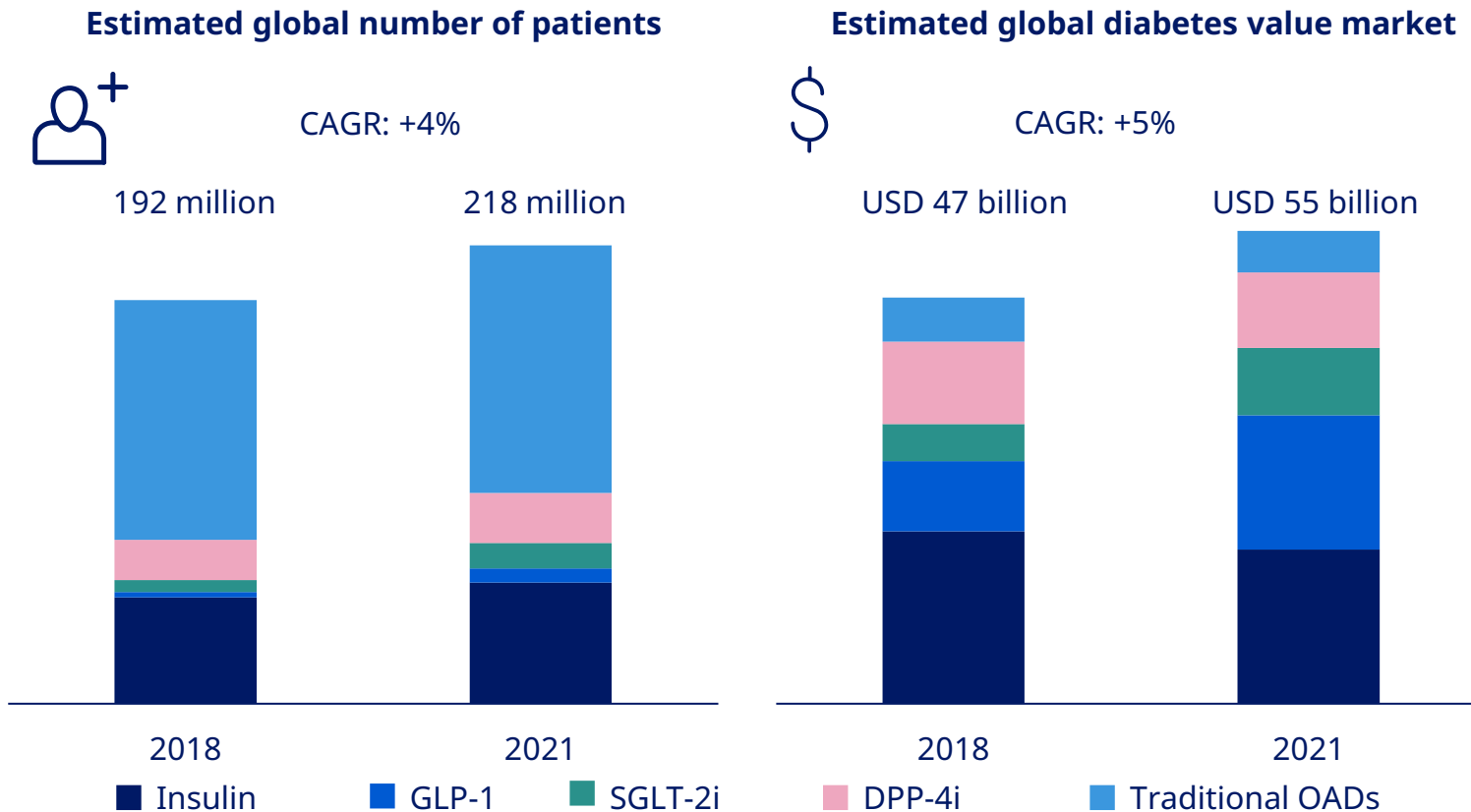


Distribution of patients and value across treatment classes



Note: Patient distribution across treatment classes is indicative and based on data for USA, Germany, France. Other OADs cover: metformin, sulfonylurea, thiazolidinediones.  
 Source: IQVIA PharMetrix claims data, IQVIA disease analyser, IQVIA MIDAS; value figures based on IQVIA MAT, Aug 2022  
 OAD: Oral anti-diabetic

# GLP-1 and SGLT-2i have been driving the value growth of the global diabetes care market



**Diabetes market dynamics**

- Continued strong growth momentum in GLP-1 and SGLT-2i segments, but from a larger base
- DPP-4i segment to have first patent expiries on key products within the coming two years
- Flat insulin volume growth and continued insulin pricing pressure

Note: GLP-1+basal insulin combination sales are included in insulin; Traditional OADs include metformin, SU and TZDs. CAGR: Compound annual growth rates. OAD: Oral anti-diabetes  
Sources: Patient data is Novo Nordisk estimates; Value data: 2018 and 2021 data based on company reported sales for insulin, GLP-1, SGLT-2i and DPP-4i and IQVIA data for traditional OADs as of December 2018 and 2021

# Better outcomes and broader reach can be accomplished through continued innovation, supported by digital solutions

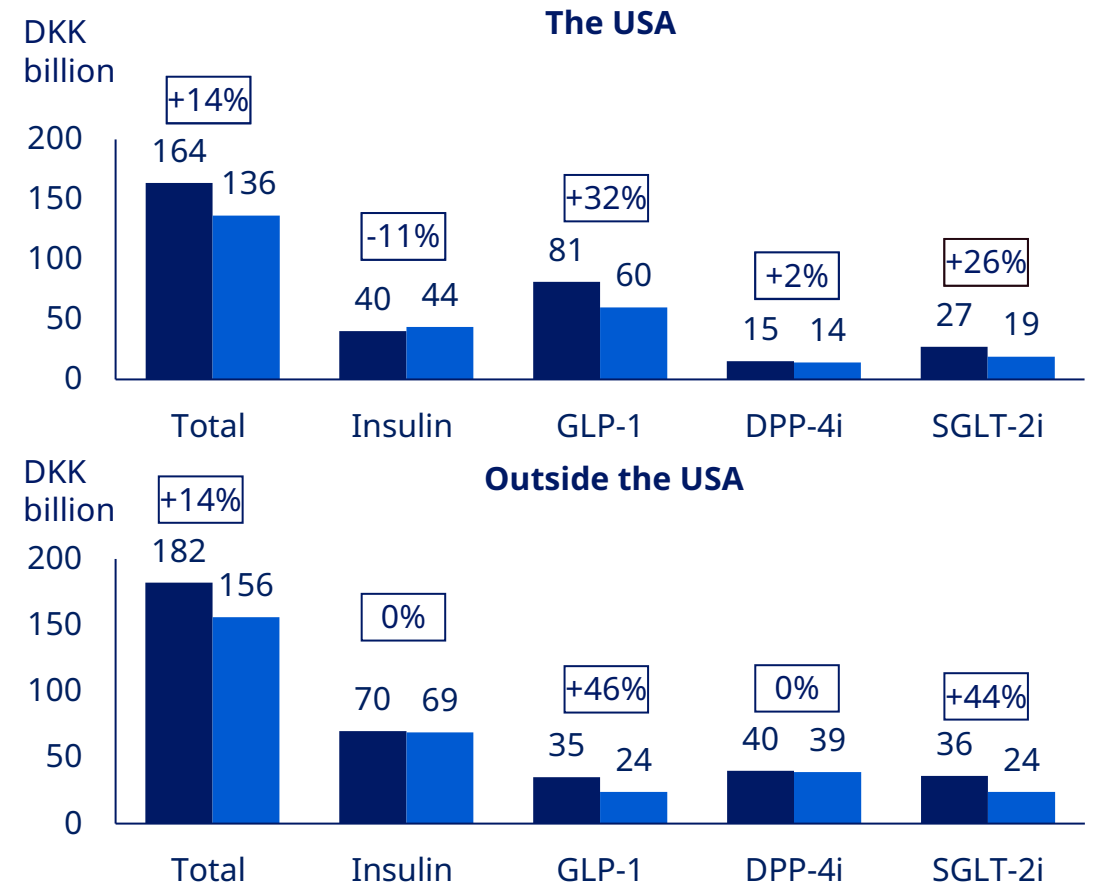
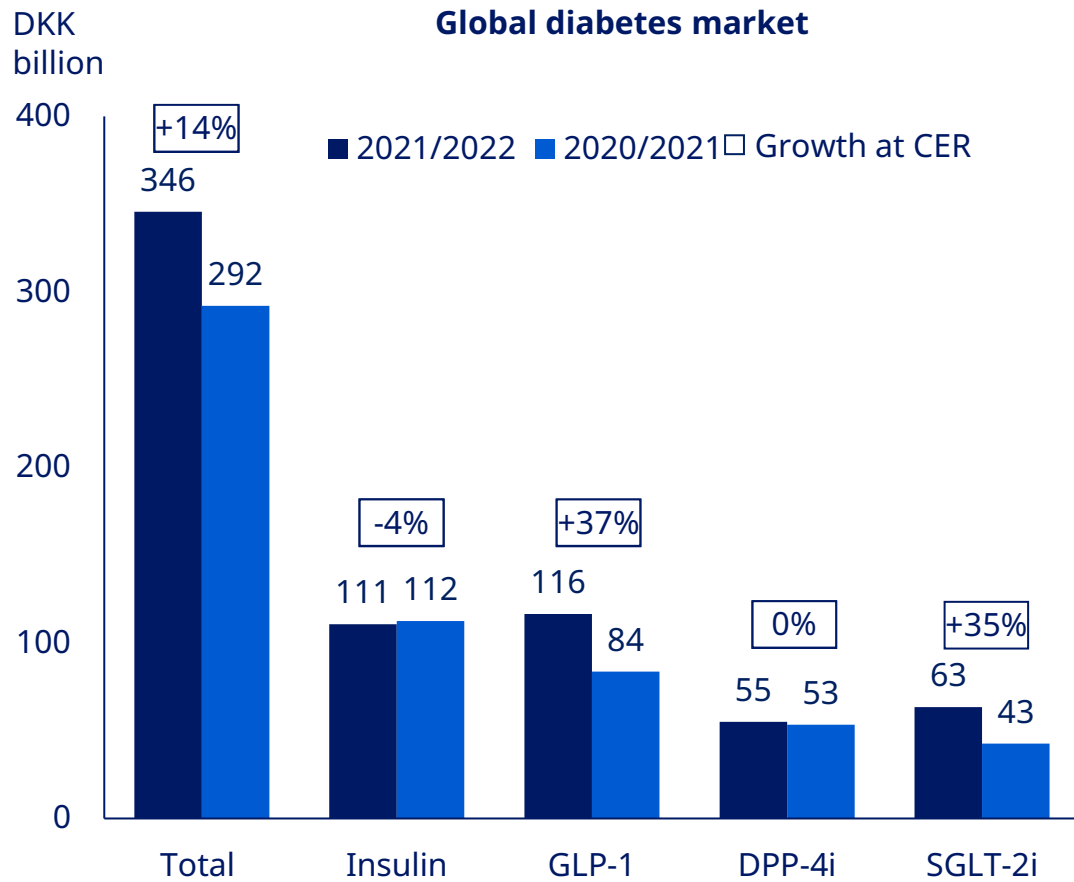
Novo Nordisk's product portfolio follows the patient treatment journey

<b>Portfolio and pipeline</b>	 semaglutide tablets	 semaglutide injection	 insulin degludec [rDNA origin] injection		
	High dose oral semaglutide	Ozempic® 2.0 mg	Icodec	IcoSema	 fast-acting insulin aspart
	<b>Uncontrolled on current OAD</b>	<b>Needing first injectable</b>	<b>Needing first basal insulin</b>	<b>Needing more than basal insulin</b>	<b>Needing added meal-time insulin control</b>

<b>Digital health solutions</b>		NovoPen®6 / NovoPen Echo® Plus are smart insulin pens and launched in 8 countries		Partnered with global CGM players
				

CGM: Continuous glucose monitoring; Grey boxes in the portfolio and pipeline references phase 2 or phase 3 assets.

# The total branded diabetes market has a global value of DKK ~350 billion annually



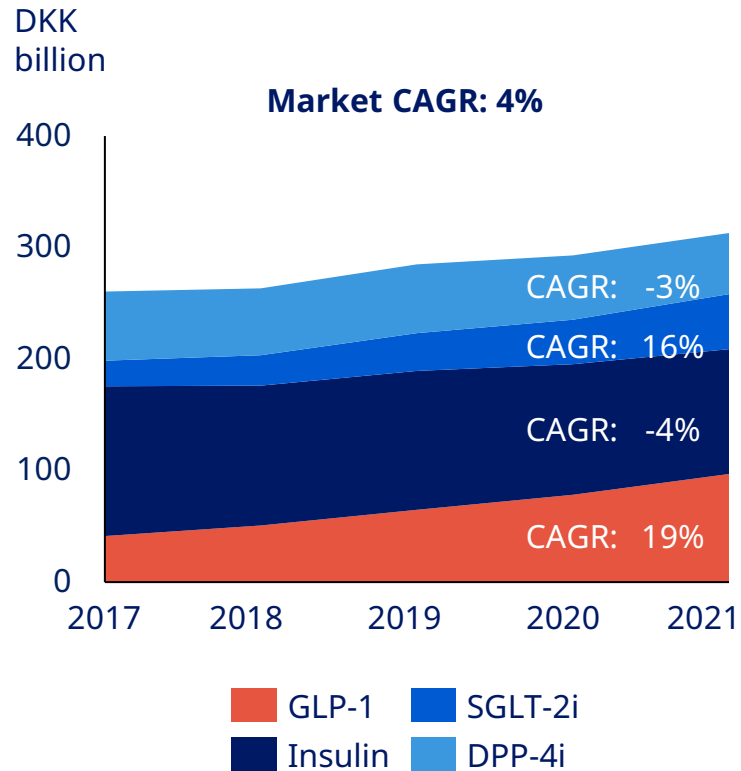
Source: Company announcements as of Q2 2022 ; 2021/2022 data based on Q3 2021 to Q2 2022 and 2020/2021 data based on Q3 2020 to Q2 2021

Note: The segment value is based on reported figures, whilst the market growth is under constant exchange rate (CER). For Novo Nordisk the diabetes growth includes Insulin and GLP-1, excluding 'other Diabetes care'.

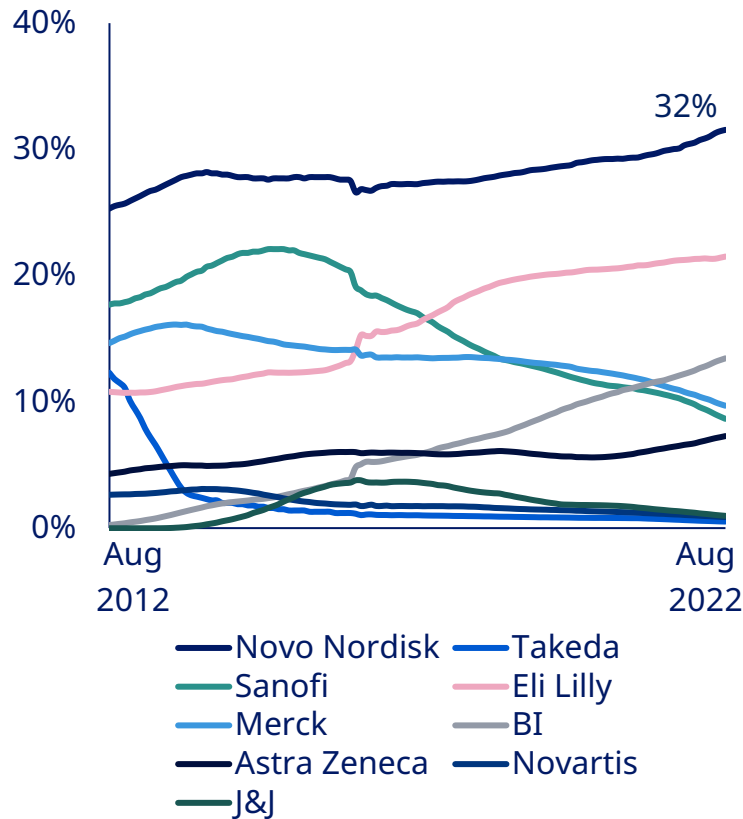


# Novo Nordisk has a leadership position within the growing diabetes market

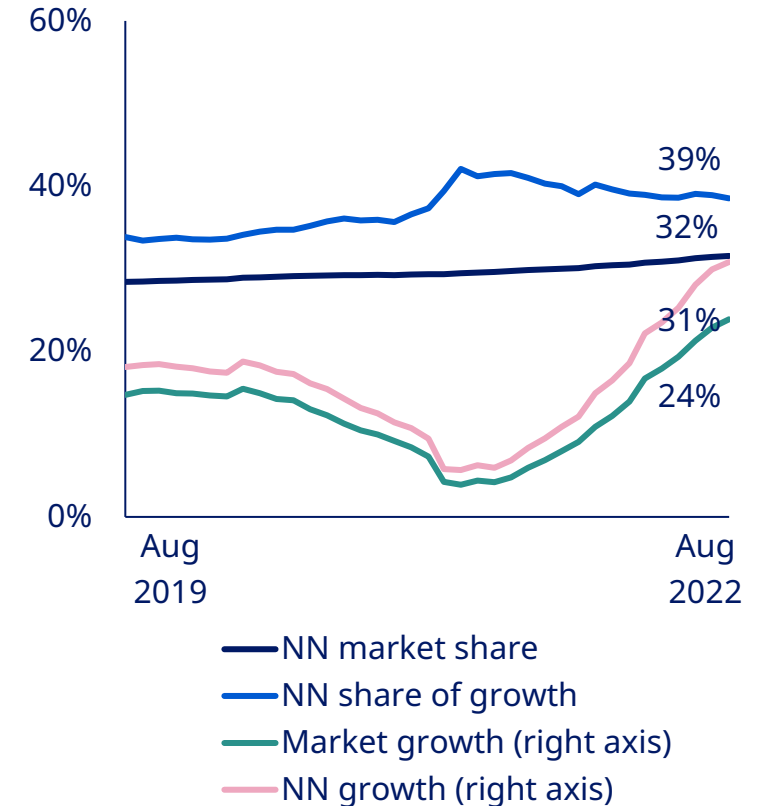
Global diabetes market by treatment class<sup>1</sup>



Novo Nordisk remains global diabetes value market leader



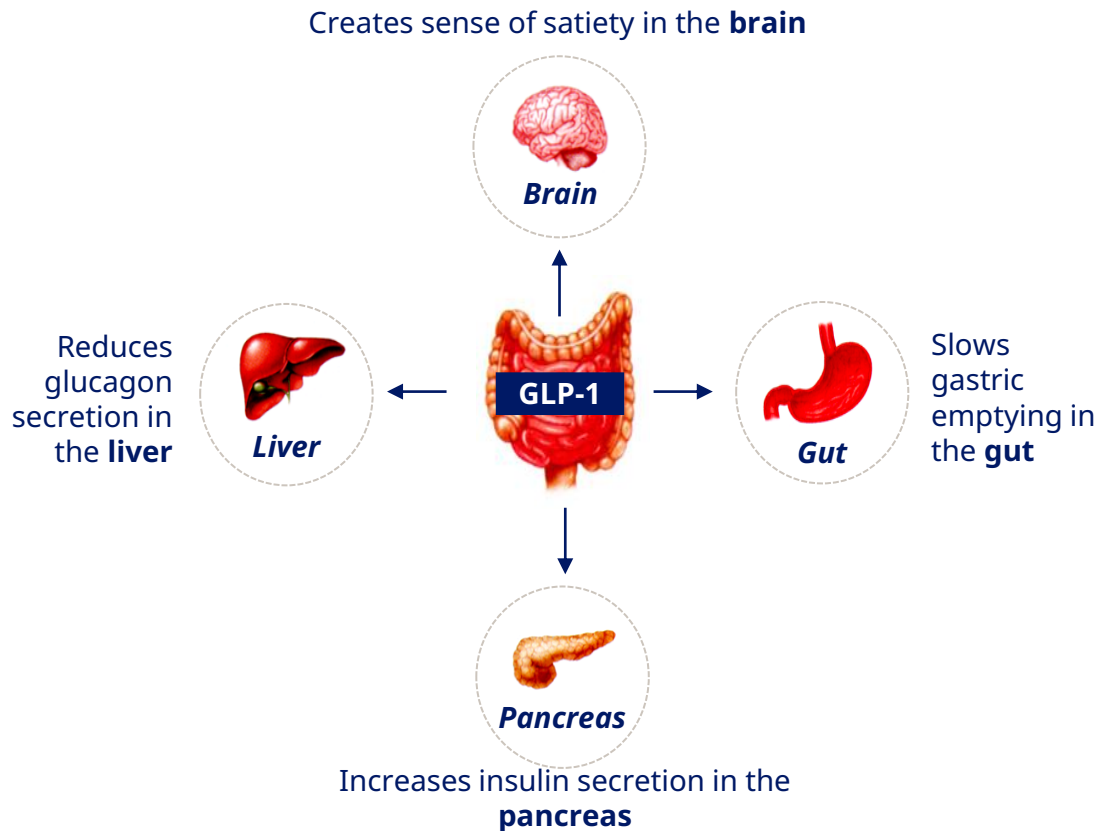
Novo Nordisk market share and share of growth



<sup>1</sup>Data is based on company reported sales from Sanofi, Eli Lilly, AstraZeneca, GSK, Novartis, Johnson & Johnson, and Merck. Data does not include generic metformin, sulphonylureas or thiazolidinedione  
 BI: Boehringer Ingelheim; J&J: Johnson & Johnson; NN: Novo Nordisk  
 Source: IQVIA MAT, August 2022 value figures Note: IQVIA data can be inflated due to use of list prices in the US

# GLP-1 effect dependent on blood glucose level

## GLP-1 mechanism of action when blood sugar levels increase



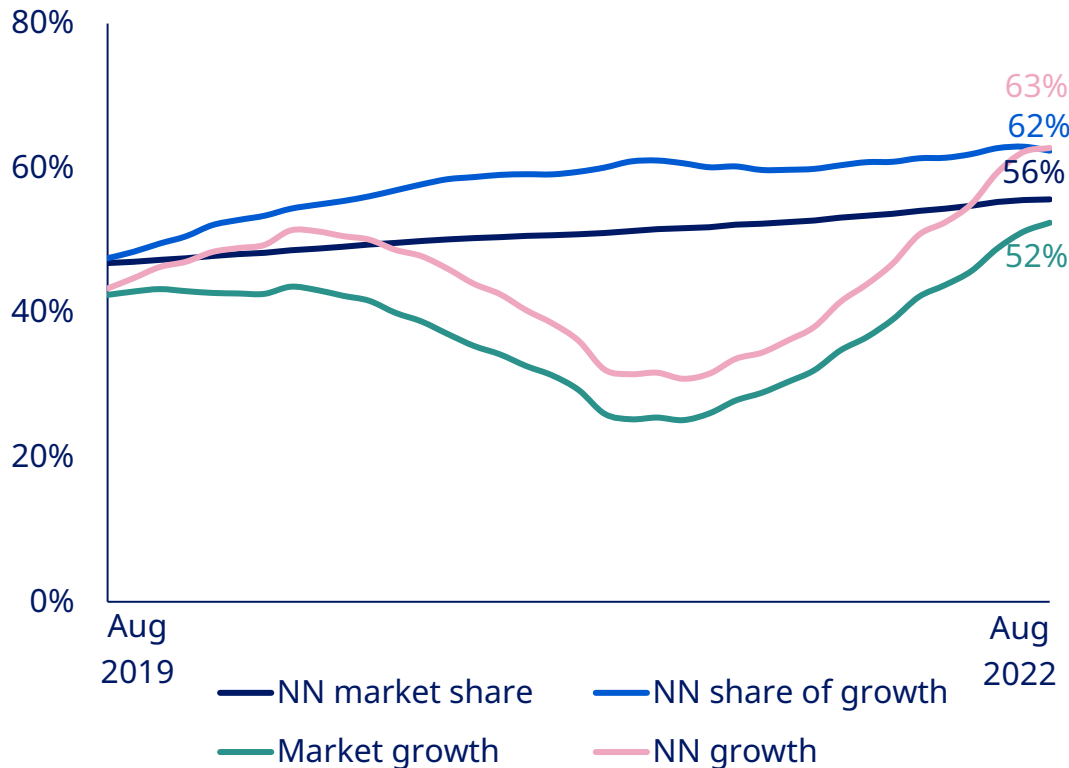
## Semaglutide holds a plethora of therapeutic opportunities<sup>1</sup>

<b>Diabetes</b>	<b>FOCUS - Diabetic retinopathy outcomes trial</b> Semaglutide s.c.; ~1,500 patients, T2D ≥10 years
<b>CVD</b>	<b>SOUL - Cardiovascular outcomes trial</b> Oral semaglutide; ~9,600 patients, T2D, established CVD or CKD
<b>Obesity</b>	<b>SELECT - Cardiovascular outcomes trial</b> Semaglutide 2.4 mg, ~17,500 patients with obesity and without diabetes, event driven
<b>NASH</b>	<b>Semaglutide in NASH</b> Semaglutide s.c.; phase 3 and 2 trials
<b>CKD</b>	<b>FLOW - Chronic kidney disease outcomes trial</b> Semaglutide 1.0 mg; ~3,200 patients, T2D, moderate to severe CKD
<b>PAD</b>	<b>STRIDE - Peripheral artery disease trial</b> Semaglutide 1.0 mg; ~ 800 patients with T2D and PAD
<b>Brain disorders</b>	<b>Alzheimer's Disease</b> Oral Semaglutide 14 mg; ~ 3,700 patients with early Alzheimer's disease
<b>Heart Failure</b>	<b>STEP - HFpEF</b> Semaglutide 2.4 mg; ~ 600 patients with obesity-related HFpEF

<sup>1</sup> List is not exhaustive  
Sc: Subcutaneous; T2D: Type 2 diabetes; CVD: Cardiovascular disease; CKD: Chronic kidney disease; NASH: Non-alcoholic steatohepatitis; PAD: Peripheral artery disease

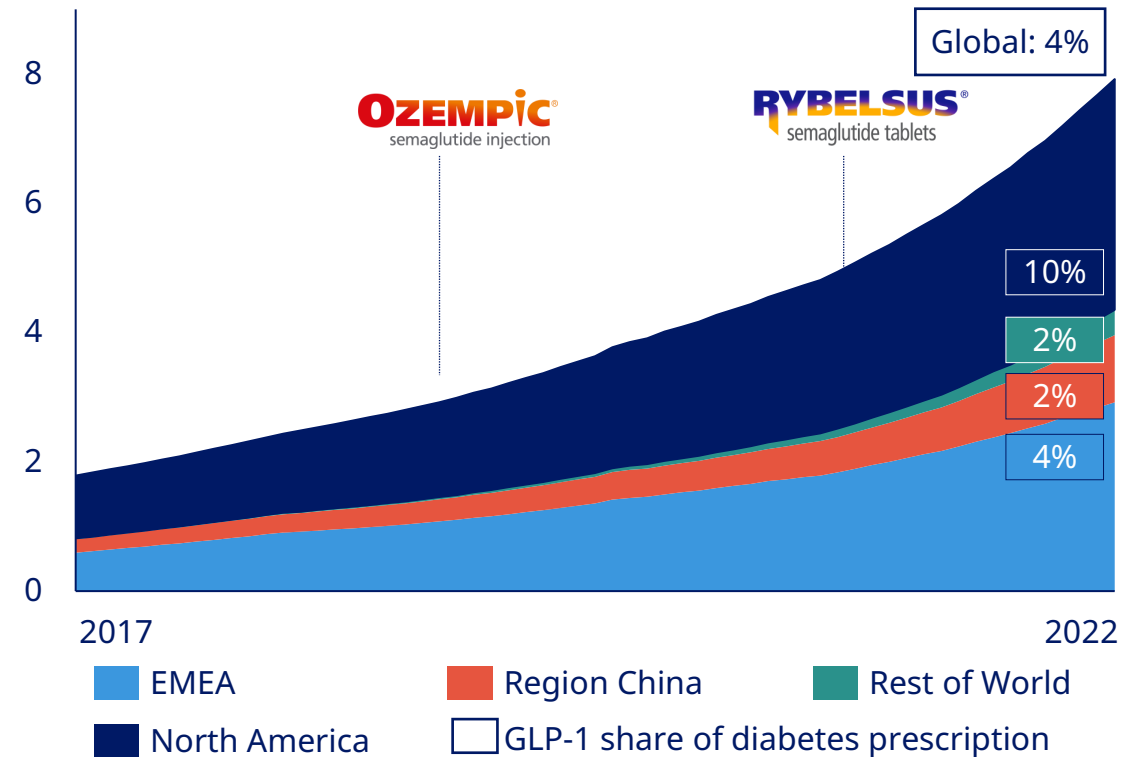
# Novo Nordisk has 56% of the global GLP-1 market, while GLP-1 penetration of diabetes volume varies across regions

GLP-1 market growth and Novo Nordisk market share



4% of total diabetes prescriptions use a GLP-1 with large differences across markets

Million scripts

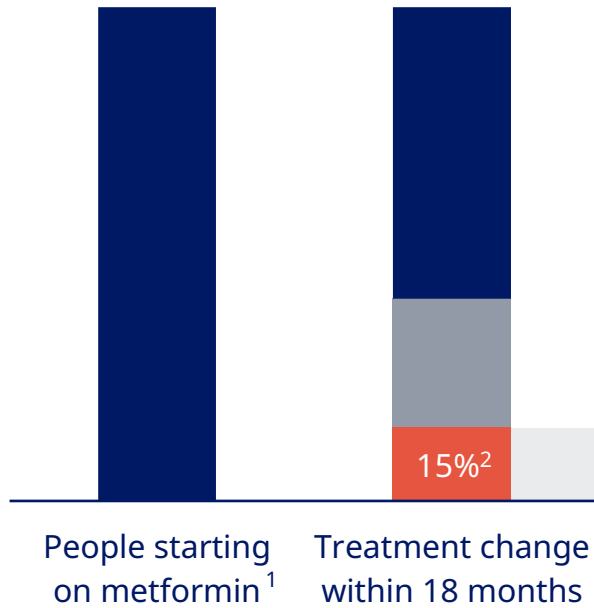


Patient share based on data for the USA, the UK, Germany and France only. Source: IQVIA MAT value (spot rate), Aug 2022

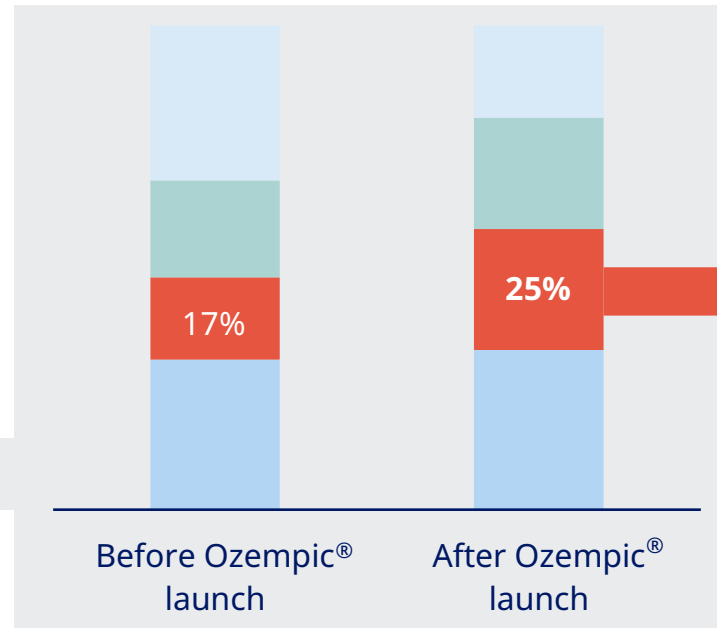
EMEA: Europe, Middle East and Africa; Region China covers Mainland China, Taiwan, and Hong Kong Source: IQVIA MAT, Aug 2022

# Ozempic® launch has helped drive the changing treatment paradigm in the US

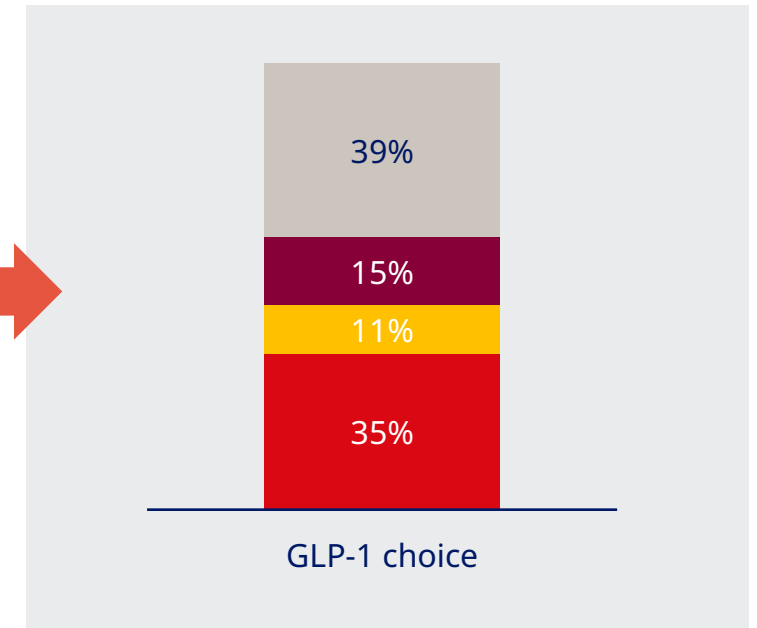
15% intensify with non-generic treatment within 18 months of starting metformin



Ozempic® launch increases the use of GLP-1 as intensification after metformin



More than 60% of patients choose Novo Nordisk GLP-1 products



■ Non-generic ■ Generic ■ Metformin

■ Insulin ■ GLP-1 ■ SGLT-2i ■ DPP-4i

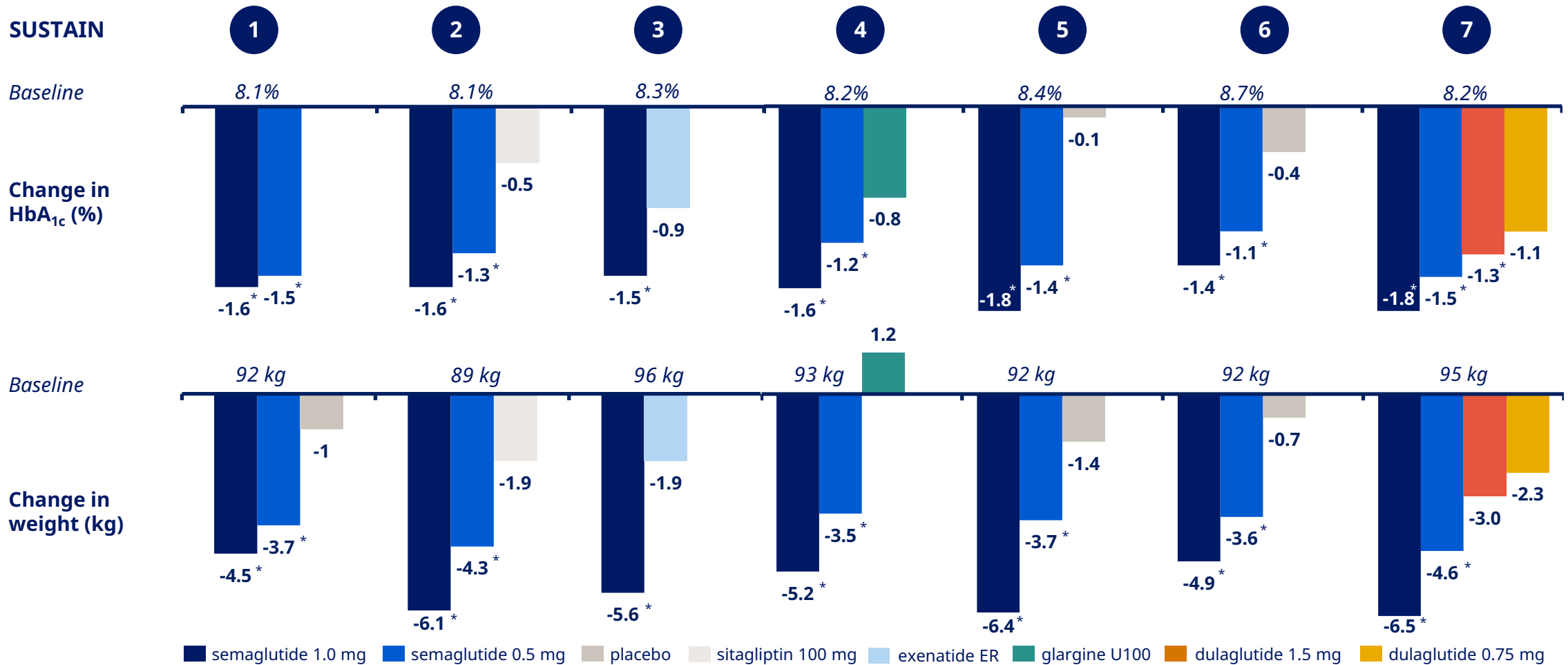
■ Ozempic® ■ Rybelsus® ■ Victoza® ■ Other

OAD: oral anti-diabetes medication;

Note: All numbers are from the North America Operations. The analysis is made by comparing patients starting metformin in Q1 2017 with patients starting metformin in Q4 2019 and has 300+ unique regimens grouped based on subclass hierarchy (GLP-1 reflects GLP-1 only, as well as regimens including any combination of subclasses), regimens hierarchy: insulin, GLP-1, SGLT-2i, DPP-4i, generic.<sup>1</sup> Considering patients that started on Metformin (844K patients)

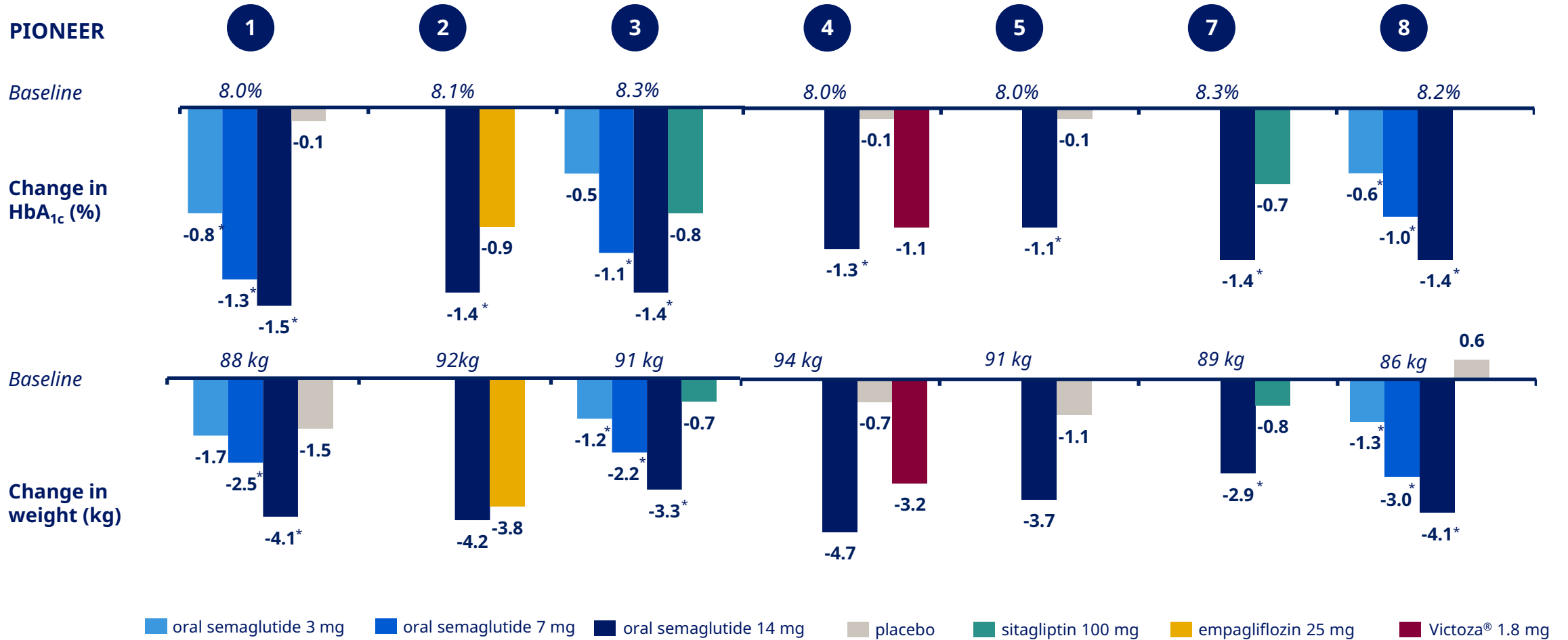
Source: IQVIA, MAT Dec'21

# SUSTAIN trials with subcutaneous semaglutide



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

# PIONEER programme with oral semaglutide



Note: PIONEER 9 and PIONEER 10 were Japanese studies and PIONEER 6 was a CV safety study. \* Statistically significant based on the hypothetical treatment policy; PIONEER 1: QD oral sema vs placebo in people with T2D treated with diet and exercise only; PIONEER 2: QD oral sema vs empagliflozin 25 mg in people with T2D; PIONEER 3: QD oral sema vs sitagliptin 100 mg in people with T2D; PIONEER 4: QD oral sema vs Victoza® 1.8 mg and placebo in people with T2D; PIONEER 5: QD oral sema vs placebo in people with T2D and moderate renal impairment; PIONEER 7: QD oral sema using a flexible dose adjustment based on clinical evaluation vs sitagliptin 100 mg in people with T2D; PIONEER 8: Effects of QD oral sema vs placebo in people with long duration of T2D treated with insulin ER: Extended-release; QW: once-weekly; QD: once-daily; oral sema: oral semaglutide; T2D: type 2 diabetes, OAD: oral anti-diabetics; CV: Cardiovascular

# Semaglutide 2.0 mg s.c. and high dose oral sema hold potential to bring patients needing treatment intensification to target

Phase 3 trial, SUSTAIN FORTE, completed and label application approved in the US and the EU

Estimand	Trial product estimand		Treatment policy estimand	
Once-weekly semaglutide	2.0 mg	1.0 mg	2.0 mg	1.0 mg
HbA <sub>1c</sub> reduction	2.2%*	1.9%	2.1%*	1.9%
Body weight reduction (kg)	6.9*	6.0	6.4	5.6
HbA <sub>1c</sub> < 7.0% <sup>1</sup>	68%	58%		

**Efficacy:** Semaglutide 2.0 mg s.c. showed superior HbA<sub>1c</sub> reduction with more patients reaching target<sup>1</sup> versus semaglutide 1.0 mg s.c.

**Safety:** Semaglutide 2.0 mg appeared to have a safe and well-tolerated profile. Gastrointestinal adverse events were similar for semaglutide 2.0 mg.

Nausea rates around 15%

Treatment discontinuation rates below 5%

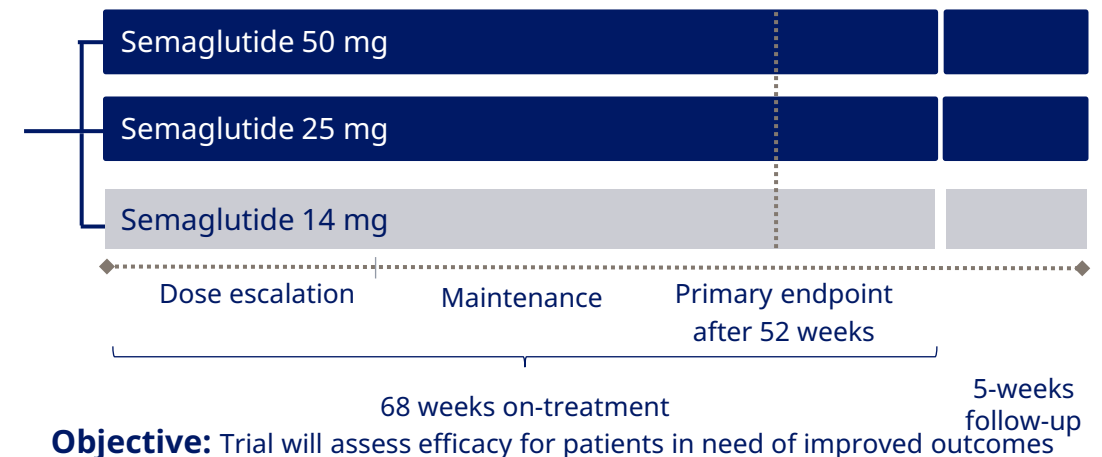
**Label expansion application approved in the US and the EU**

<sup>1</sup> ADA recommended treatment target

\*Statistically significant

S.c.: subcutaneous; Sema: Semaglutide; T2D: Type 2 diabetes

Phase 3 trial with oral semaglutide 25 mg and 50 mg in T2D has been initiated

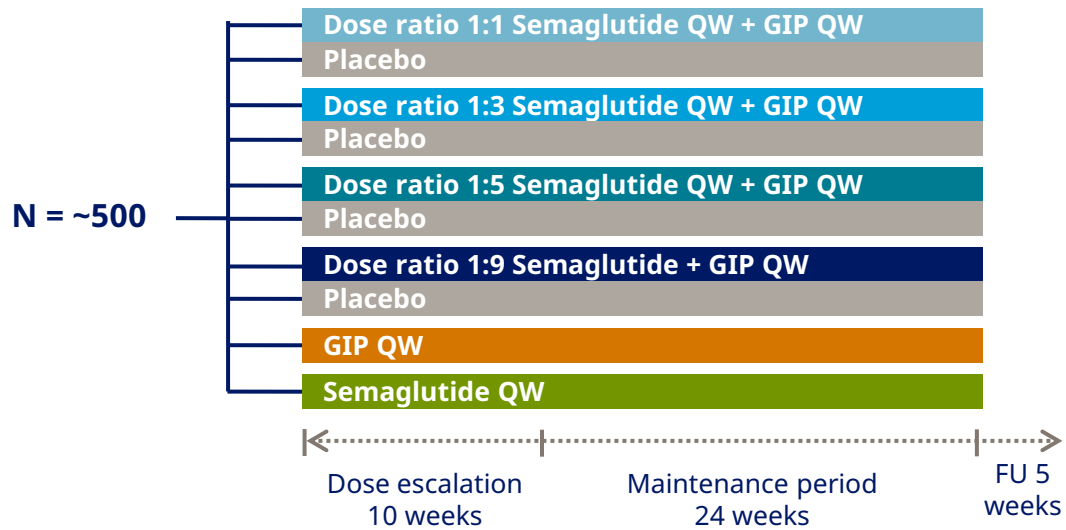


**Objective:** Trial will assess efficacy for patients in need of improved outcomes

**Primary endpoint:** Confirm superiority of semaglutide 25 mg and 50 mg once-daily versus oral semaglutide 14 mg on HbA<sub>1c</sub> reduction

# A fixed dose combination with GIP entered phase 2 in the second half of 2021 in people with type 2 diabetes

## Phase 2 trial design for semaglutide in combination with GIP



### Inclusion criteria:

- Age ≥ 18-75 years
- BMI: 25-39.9 kg/m<sup>2</sup>
- HbA<sub>1c</sub>: 7.0-10.0%
- Diet/exercise ± metformin
- Type 2 diabetes

### Objective

Compare the effect on glycaemic control and body weight of semaglutide in combination with GIP vs semaglutide and vs GIP

### Primary endpoint

Change from baseline to week 34 in HbA<sub>1c</sub> (%-point)

### Trial start

39-week trial was initiated in Q4 2021



# Novo Nordisk global insulin market leadership at 46.8% and the global insulin volume market grew by 0.5%

## North America Operations

Market growth: -1.4%  
MS: 38.2%  
MS gain/loss<sup>1</sup>: -1.0%-p  
Sales growth: -20%

### USA

Market growth: -1.4%  
MS: 37.7%  
MS gain/loss<sup>1</sup>: -1.1%-p  
Sales growth: -22%

## Global

Market growth: 0.5%  
MS 46.8%  
MS gain/loss<sup>1</sup>: -0.5%-p  
Sales growth: -11%

## International Operations

Market growth: 1.2%  
MS: 49.9%  
MS gain/loss<sup>1</sup>: -0.4%-p  
Sales growth: -7%

### EMEA

Market growth: 1%  
MS: 47.6%  
MS gain/loss<sup>1</sup>: 0.0%-p  
Sales growth: -2%

### RoW

Market growth: -3.5%  
MS: 57.1%  
MS gain/loss<sup>1</sup>: -0.4%-p  
Sales growth: 3%

### Region China

Market growth: 7.6%  
MS: 49.5%  
MS gain/loss<sup>1</sup>: -1.3%-p  
Sales growth: -21%

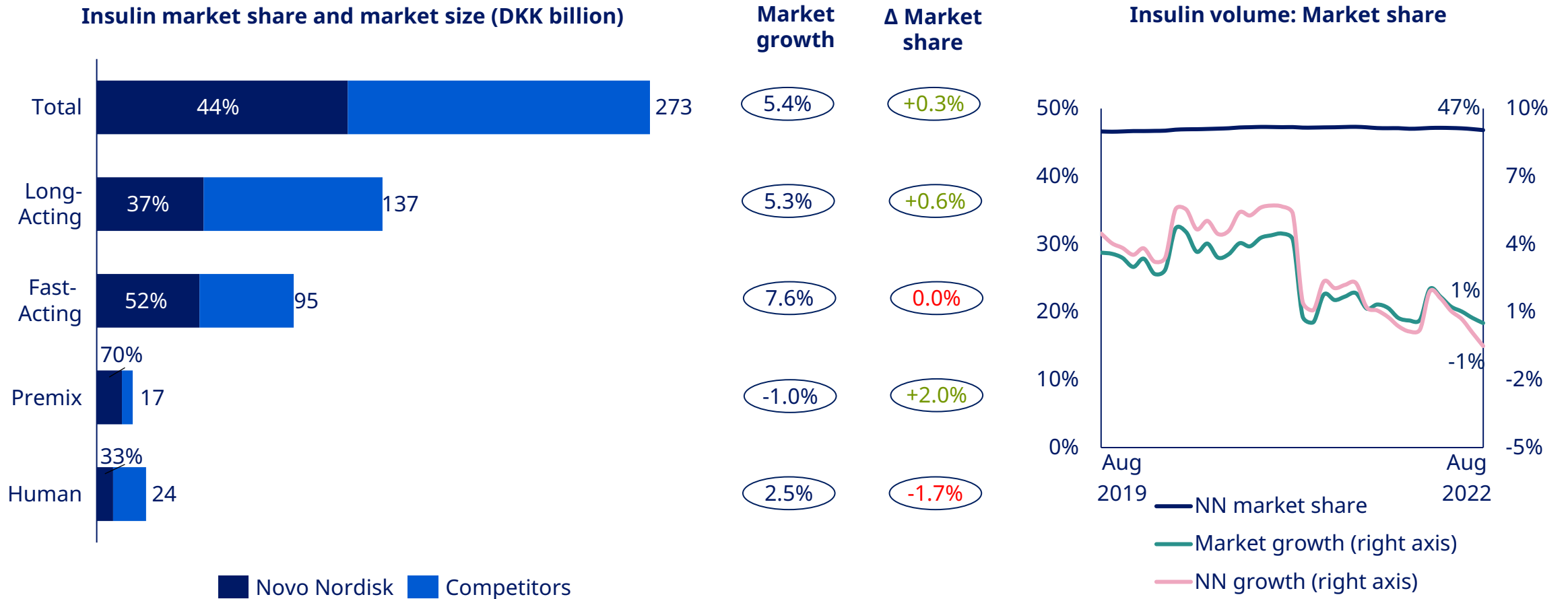
Source: IQVIA MAT, Aug 2022 volume figures

Note: Sales growth for first nine months of 2022 at constant exchange rates; Market shares are for Novo Nordisk, market growth for total insulin market

<sup>1</sup>MS gain/loss compared with Aug 2021 reported MS

EMEA: Europe, Middle East and Africa; MS: Market share; RoW: Asia Pacific; Latin America; MS: Market Share; Region China covers Mainland China, Taiwan, and Hong Kong

# Insulin market size and volume share of growth and market share



Source: IQVIA, Aug 2022, LHS graph – Value, RHS Graph - Volume, MAT, all countries; Share of growth not depicted due to too high numbers ; NN: Novo Nordisk

# Insulin icodec, a basal insulin intended for once-weekly treatment, may reduce the disease burden for patients

## Bringing the strongest value proposition to market



Reduction of disease burden with once-weekly treatment



Tested for superior HbA<sub>1c</sub> and TiR vs glargine and standard-of-care and similar safety profile of Tresiba®

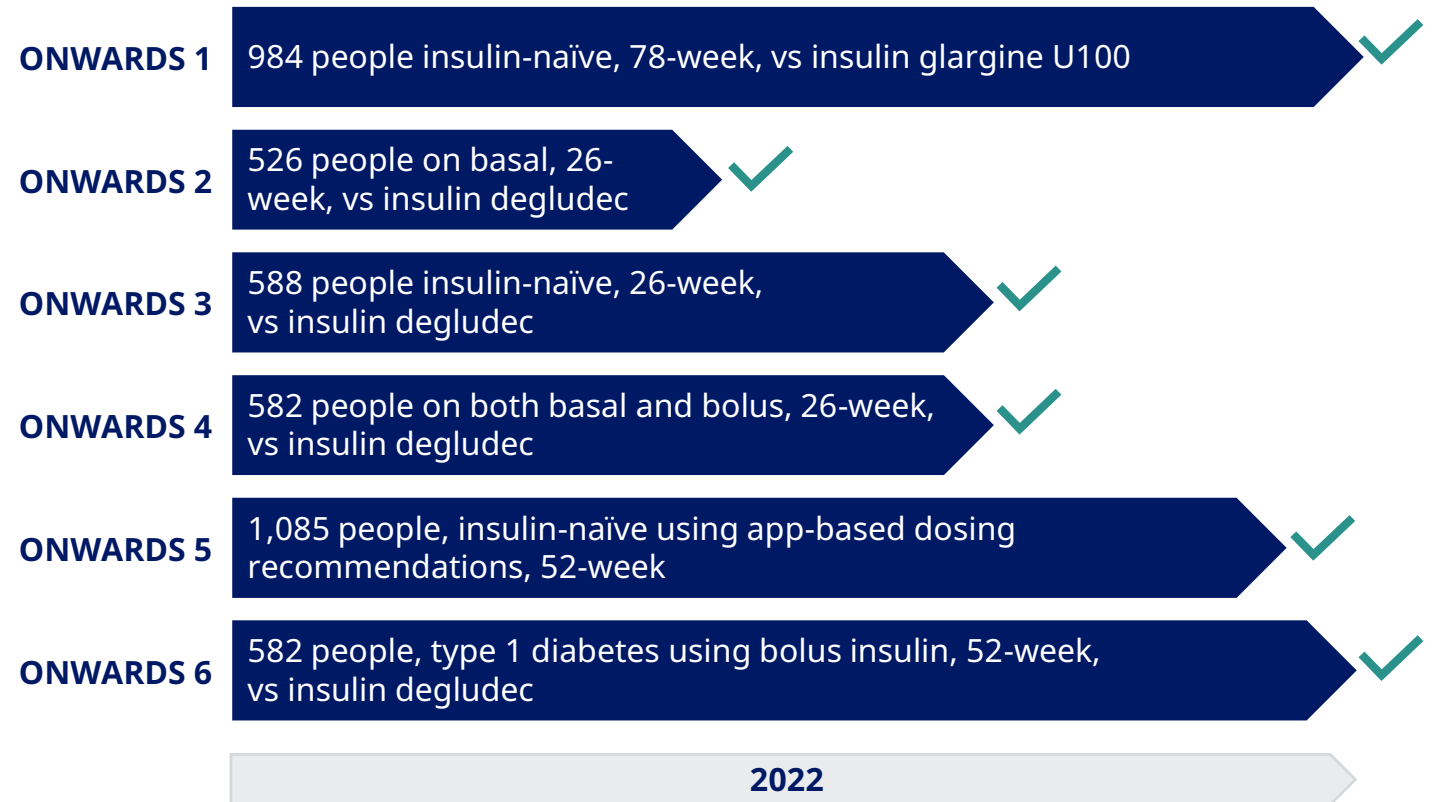


App-based offering and connected smart pen to optimise titration and support compliance and data collection



Reduced environmental footprint

## Insulin icodec phase 3 programme completed in 2022

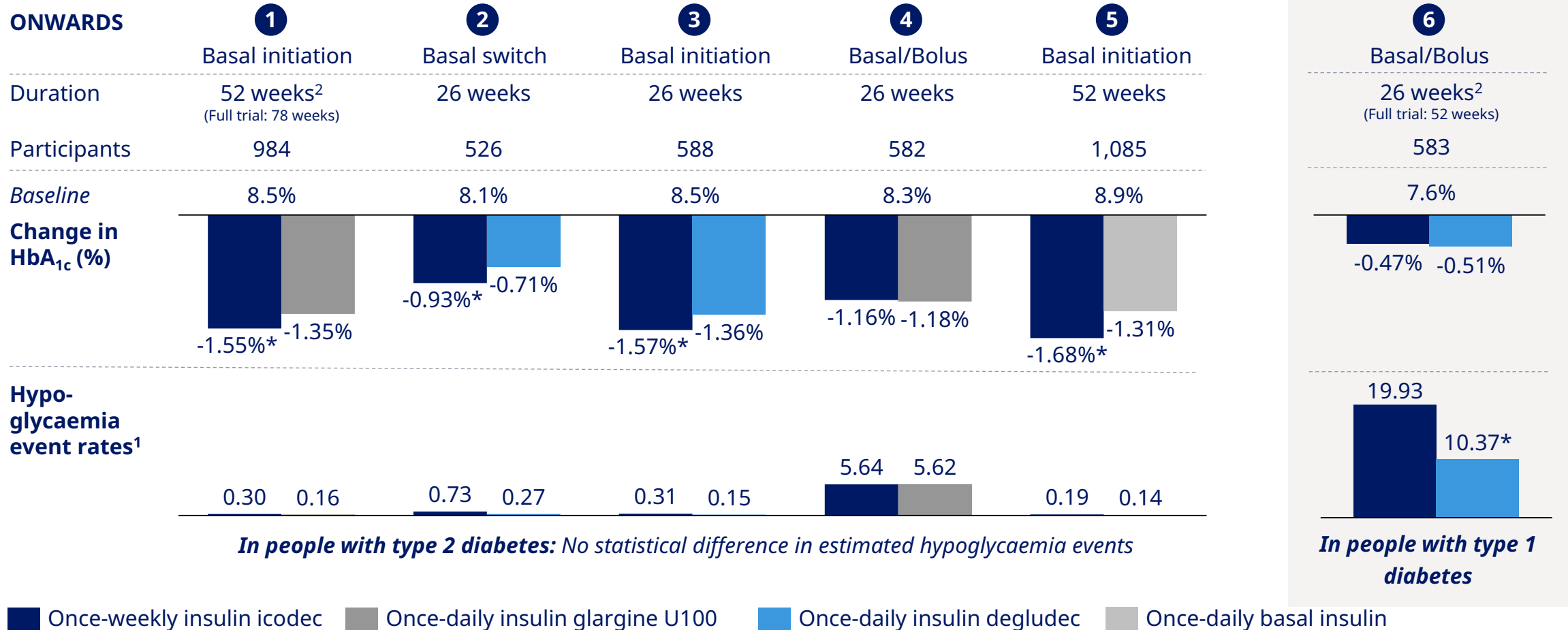


TiR: Time-in-range

Note: For ONWARDS 1 and ONWARDS 6 main phases are completed

# The full ONWARDS programme with once-weekly insulin Icodec completed in 2022

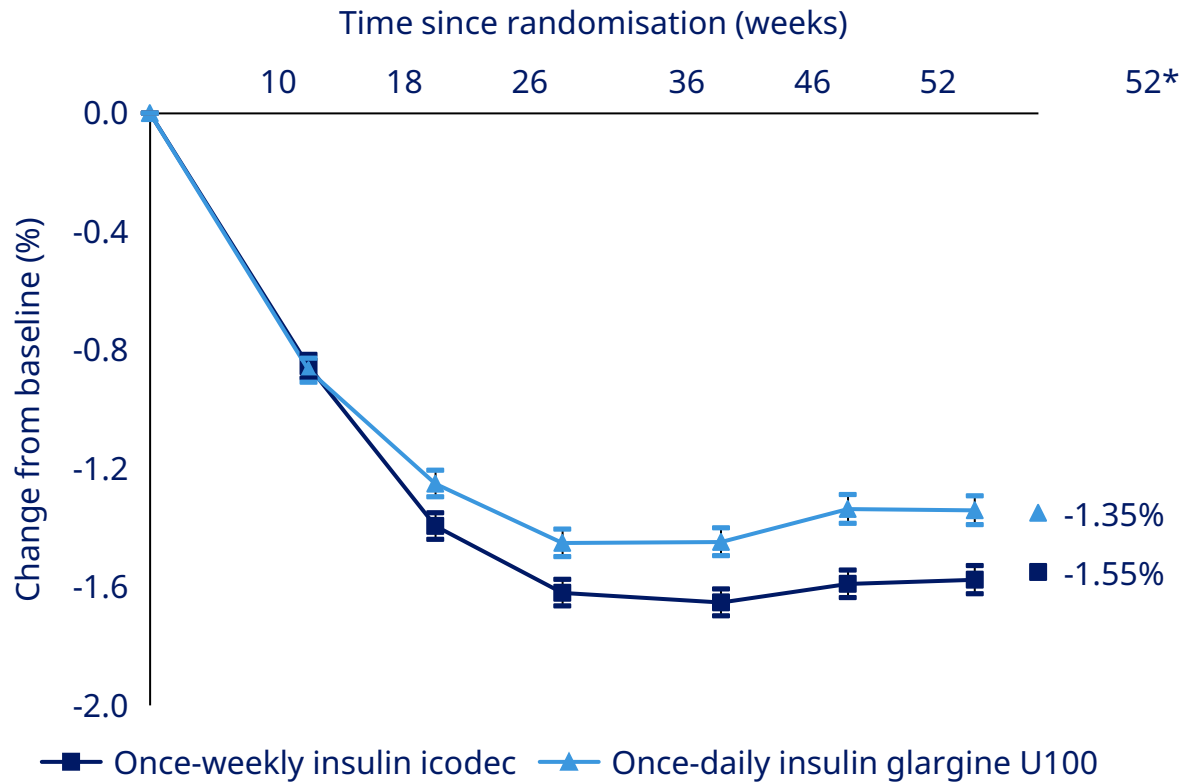
## ONWARDS



\* Statistically significant in terms of superiority. <sup>1</sup>Severe or clinically significant hypoglycaemia events (blood glucose <3 mmol/L) per patient year <sup>2</sup>Duration refers to trial main phase. T1D: Type 1 diabetes; T2D: Type 2 diabetes  
 ONWARDS 1: QW insulin icodec vs QD insulin glargine U100 both with non-insulin anti-diabetic treatment in insulin-naïve people with T2D; ONWARDS 2: QW insulin icodec vs QD insulin degludec in people with T2D switching from a QD insulin; ONWARDS 3: QW insulin icodec vs QD insulin degludec in insulin-naïve people with T2D; ONWARDS 4: QW insulin icodec vs QD insulin degludec both with mealtime insulin in people with T2D treated with basal and bolus insulin; ONWARDS 5: QW insulin icodec vs QD basal insulin with an app providing dosing recommendation in insulin-naïve people with T2D; ONWARDS 6: QW insulin icodec vs QD insulin degludec both with mealtime insulin in people with T1D

# ONWARDS 1 met its primary endpoint and demonstrated superior HbA<sub>1c</sub> reduction compared to insulin glargine U100

Superior change in HbA<sub>1c</sub> from baseline over time 52 weeks



Note: Overall baseline HbA<sub>1c</sub> of 8.5%

### Inclusion criteria

- T2D treated with OADs\* ± GLP-1 s.c.
- Age ≥ 18 years, HbA<sub>1c</sub> 7.0-11.0%, BMI ≤ 40 kg/m<sup>2</sup>

### Endpoints:

- Once-weekly insulin icodec achieved a superior reduction in estimated HbA<sub>1c</sub> of -1.55% compared to -1.35% for insulin glargine U100 (ETD:-0.19%)
- Superior time in range for insulin icodec vs insulin glargine U100 broadly equal to one additional hour in range per day

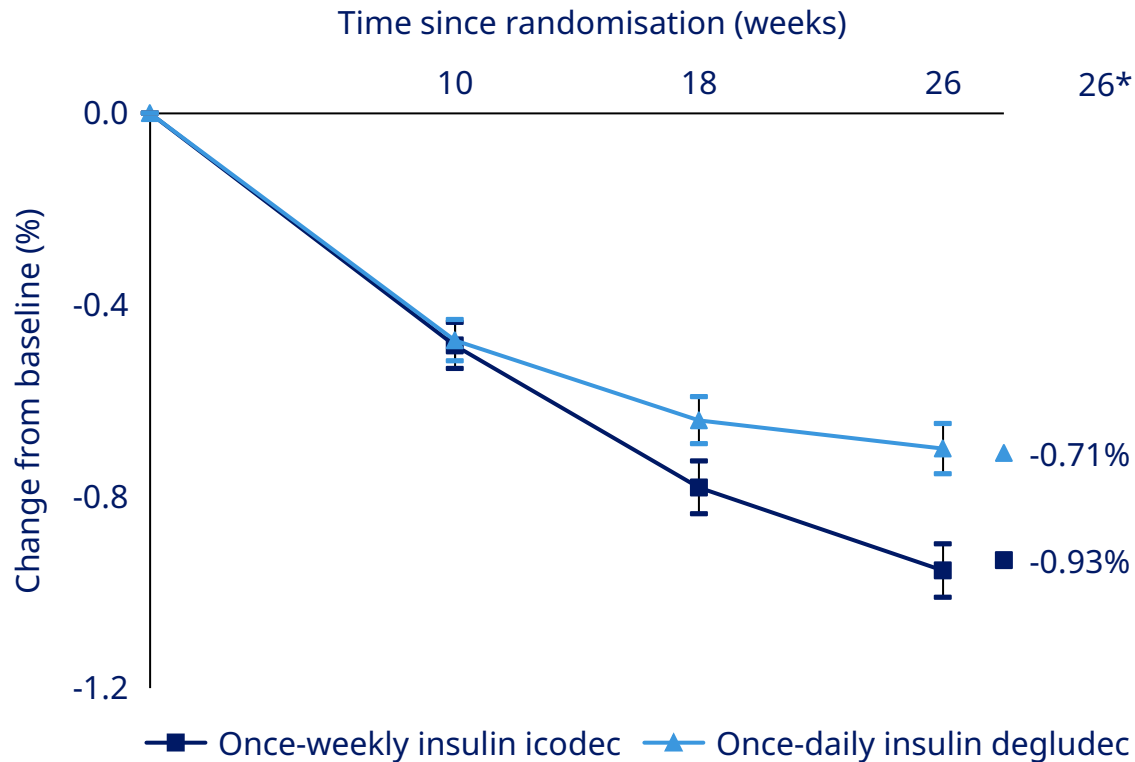
### Safety:

- No statistically significant difference in estimated rates of severe or clinically significant hypoglycaemia events
- Insulin icodec appeared to have a safe and well-tolerated profile

\*Lines are based on observed data where the value denoted after 52 weeks is estimated mean value derived based on multiple imputation  
 ETD: Estimate treatment difference

# ONWARDS 2 met its primary endpoint and demonstrated superiority on HbA<sub>1c</sub> reduction compared to insulin degludec

Superior change in HbA<sub>1c</sub> from baseline over time 26 weeks



Note: Overall baseline HbA<sub>1c</sub> of 8.13%

**Inclusion criteria:**

- T2D treated with basal insulin ± OADs\* ± GLP-1 s.c.
- Age ≥18 years, HbA1c 7-10%, BMI ≤ 40 kg/m<sup>2</sup>

**Endpoints:**

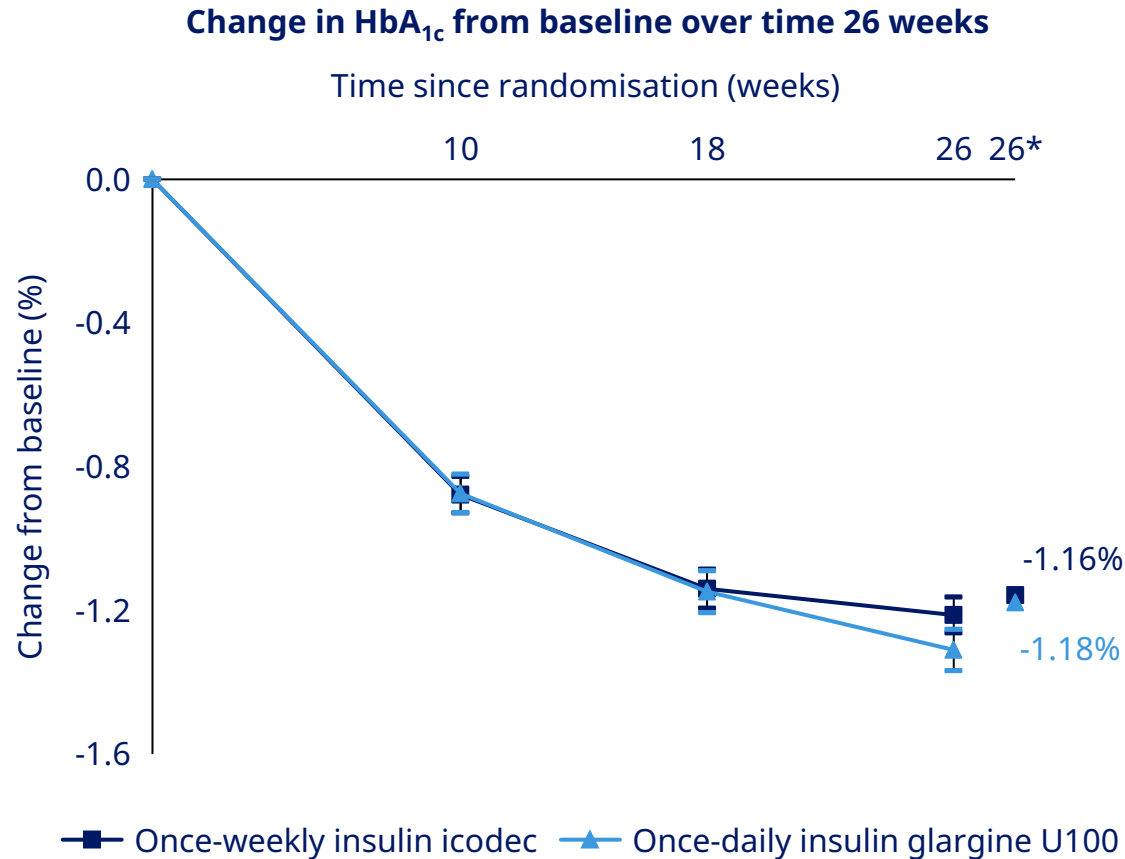
- Once-weekly insulin icodec achieved a superior reduction in estimated HbA1c compared to insulin degludec (ETD: -0.22%)
- ONWARDS 2 showed a statistically significant improvement in quality of life compared to insulin degludec

**Safety:**

- No statistically significant difference in estimated rates of severe or clinically significant hypoglycaemia events
- In the trial, once-weekly insulin icodec appeared to have a safe and well-tolerated profile

\*Lines are based on observed data where the value denoted after 26 weeks is estimated mean value derived based on multiple imputation  
ETD: Estimate treatment difference

# ONWARDS 4 achieved primary endpoint of HbA<sub>1c</sub> non-inferiority with no statistically significant difference in hypoglycaemic events



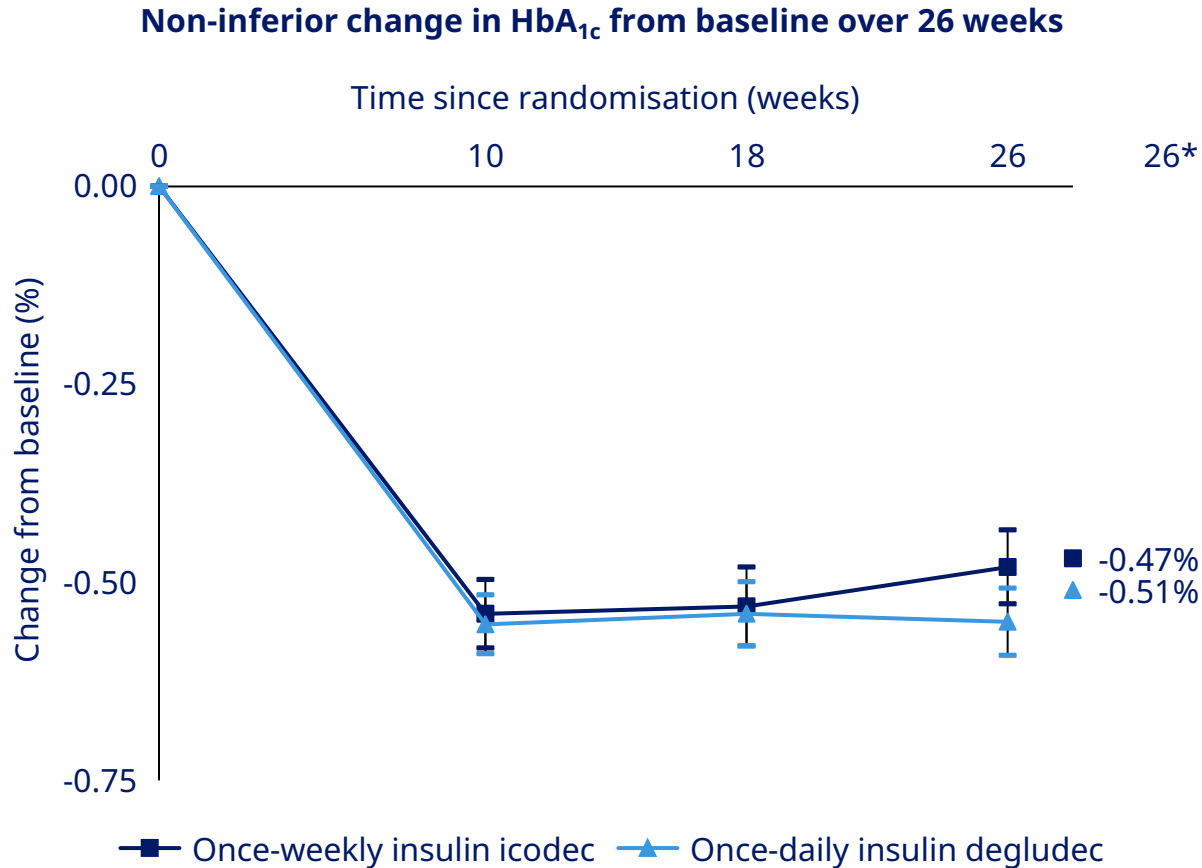
**Overall hypoglycaemic episodes in the trial**

On treatment	Insulin icodec				Insulin glargine U100			
	N	(%)	E	R	N	(%)	E	R
<b>Level 2:</b> Clinically significant hypo	148	(50.9)	937	5.60	160	(55.0)	935	5.61
<b>Level 3:</b> Severe hypo	4	(1.4)	7	0.04	2	(0.7)	3	0.018
<b>Level 3 or 2:</b> Severe or clinically significant hypo	150	(51.5)	944	<b>5.64</b>	162	(55.7)	938	<b>5.62</b>

Note: Overall baseline HbA<sub>1c</sub> of 8.3%

\*Lines are based on observed data where the value denoted after 26 weeks is estimated mean value derived based on multiple imputation  
Hypo: hypoglycaemia; N: Number of subjects with one or more events, %: Percentage of subjects with one or more events; E: Number of events; R: Rate (number of events per patient year of exposure, hypoglycaemia alert value (level 1): Plasma glucose value of < 3.9 mmol/L (70 mg/dL) and >= 3.0 mmol/L (54 mg/dL) confirmed by BG meter. Clinically significant hypoglycaemia (level 2): Plasma glucose value of < 3.0 mmol/L (54 mg/dL) confirmed by blood glucose meter. Severe hypoglycaemia (level 3): Hypoglycaemia with severe cognitive impairment requiring external assistance for recovery.

# ONWARDS 6 met its primary endpoint of demonstrating non-inferiority in reducing HbA<sub>1c</sub> compared to insulin degludec



Note: Overall baseline HbA<sub>1c</sub> of 7.6%

### Inclusion criteria

- T1D treated with basal-bolus insulin
- Age ≥ 18 years, HbA<sub>1c</sub> < 10%

### Endpoint:

- From an overall baseline HbA<sub>1c</sub> of 7.6%, once-weekly insulin icodec achieved a reduction in estimated HbA<sub>1c</sub> of -0.47% compared to -0.51% for insulin degludec in a T1D population
- Estimated treatment difference: 0.05%

### Safety:

- A statistical difference in the estimated rates of severe or clinically hypoglycaemia events
  - 19.93 events for insulin icodec vs 10.37 events for insulin degludec

\* Lines are based on observed data where the value denoted after 26-week is estimated mean value 26 derived based on multiple imputation  
T1D: Type 1 diabetes



# Phase 3 trial programme, COMBINE, has been initiated with IcoSema

## IcoSema characteristics



IcoSema is a fixed dose combination of insulin icodec and semaglutide

- Simple and convenient once-weekly injection



Phase 3a programme with IcoSema

- Aims to confirm efficacy and safety across three global trials
- Expected completion during 2024

## Focused phase 3 trial programme

COMBINE 1  
**Post-basal insulin**

- **Initiated in Q2 2022**
- **1290 patients\*** previously on basal-insulin
- **52-week** vs. insulin icodec
- **Prim. endpoint:** HbA<sub>1c</sub> superiority
- **Sec. endpoint:** Weight and hypo superiority

COMBINE 2  
**Post-GLP-1**

- **Initiated in Q2 2022**
- **680 patients\*** previously on GLP-1 RA
- **52-week** vs. semaglutide 1.0mg
- **Primary endpoint:** HbA<sub>1c</sub> superiority

COMBINE 3  
**Basal insulin intensification**

- **Initiated in Q4 2021**
- **680 patients\*** previously on basal insulin
- **52-week** vs. insulin glargine + insulin aspart
- **Prim. endpoint:** HbA<sub>1c</sub> non-inferiority
- **Sec. endpoint:** Weight and hypo superiority



\*Patients with Type 2 Diabetes Mellitus

# Obesity care

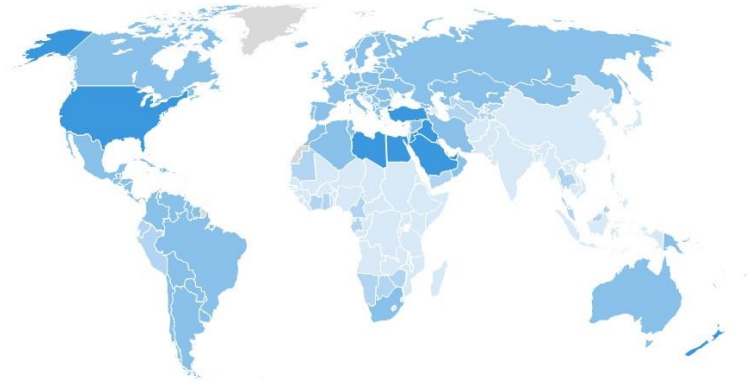
Obesity disease background	59
Obesity market development	63
Innovation	64



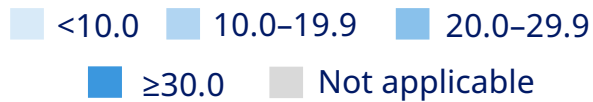
**MICHAEL PETERSEN**  
Michael lives with obesity  
Denmark

# More than 764 million people are living with obesity, yet the narrative is changing

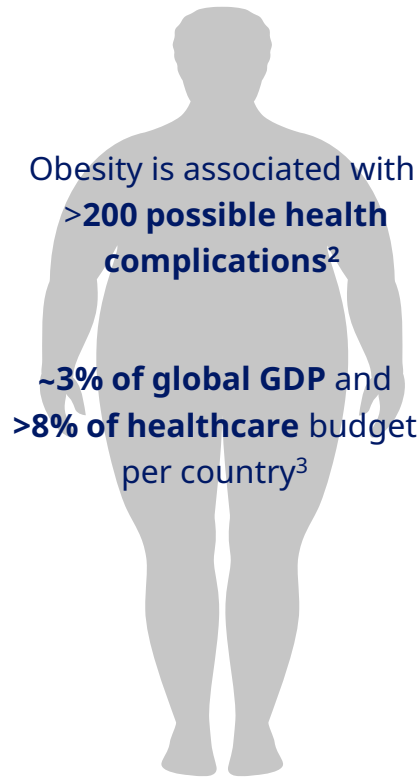
**Obesity is a global epidemic affecting more than 764 million people<sup>1</sup>**



**Obesity prevalence (%)**



**Obesity impacts both the individual and society at large**



**The obesity narrative is changing**



**Media:** Shift to more empathetic tone



**Healthcare professionals:** Increased recognition among societies within healthcare



**Policymakers:** More government recognition



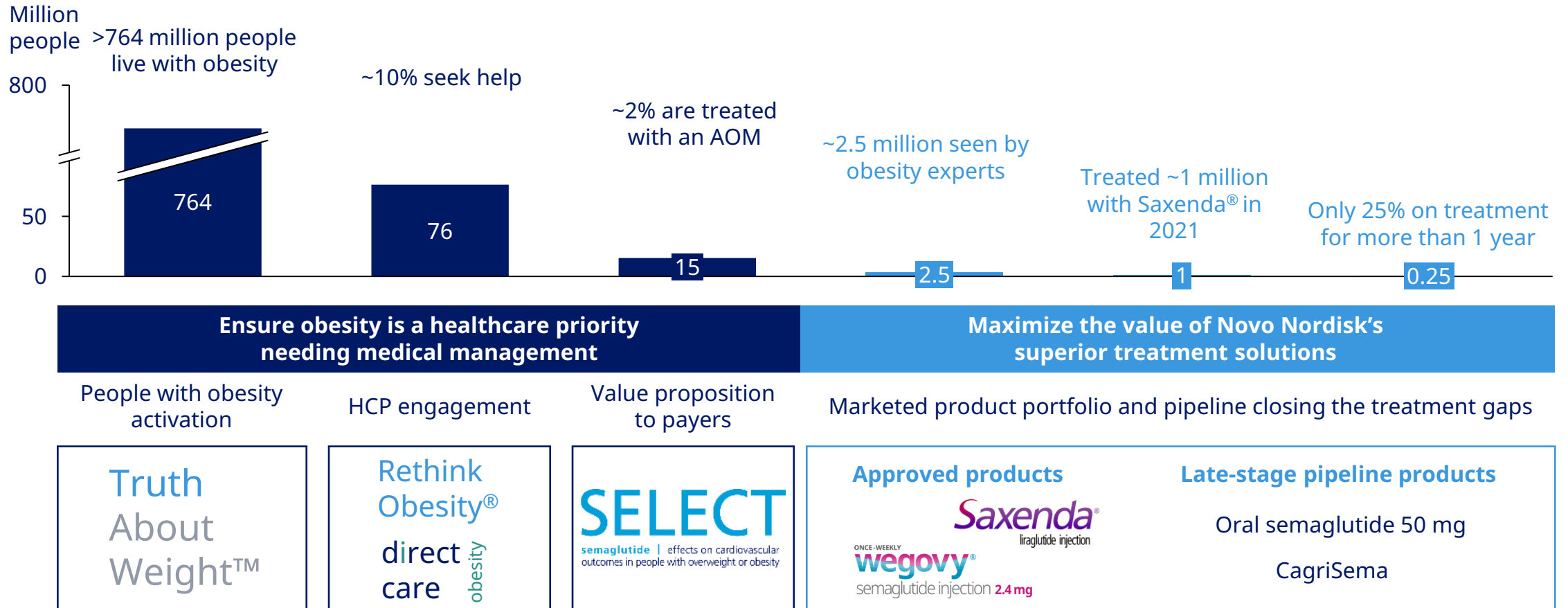
**People with obesity:** Patient groups are encouraging PwO to seek treatment

Note: Obesity is defined as BMI > 30.

PwO: People with obesity

<sup>1</sup> World Obesity Atlas 2022 <sup>2</sup> Yuen M., Earle R., Kadambi N., et al. A systematic review and evaluation of current evidence reveals 236 Obesity-Associated Disorders (OBAD). Massachusetts General Hospital & George Washington University. [Poster presentation]; <sup>3</sup> Dobbs R, Sawers C, Thompson F, et al. Overcoming Obesity: An Initial Economic Analysis. McKinsey Global Institute.

# Patient-centric strategy designed to activate more people with obesity, drive HCP engagement, and improve market access



HCP: Healthcare providers; AOM: Anti-obesity medication; CagriSema: Cagrilintide in combination with semaglutide  
 Source: World Obesity Atlas 2022; IQVIA AOM TRx 12m PwO (People with Obesity); Market Research

# Large opportunity for activating more people with obesity to seek treatment and increasing the number of prescribers

## Wegovy® patient characteristics in the US



**75%**  
of patients **new to anti-obesity medication**<sup>1</sup>

**81%**  
of patients are **female**

**38.8**  
**Average BMI**

**38%**  
of patients have **≥3 co-morbidities**

## Of the people with overweight or obesity in the US, almost 90% have a weight-related comorbidity

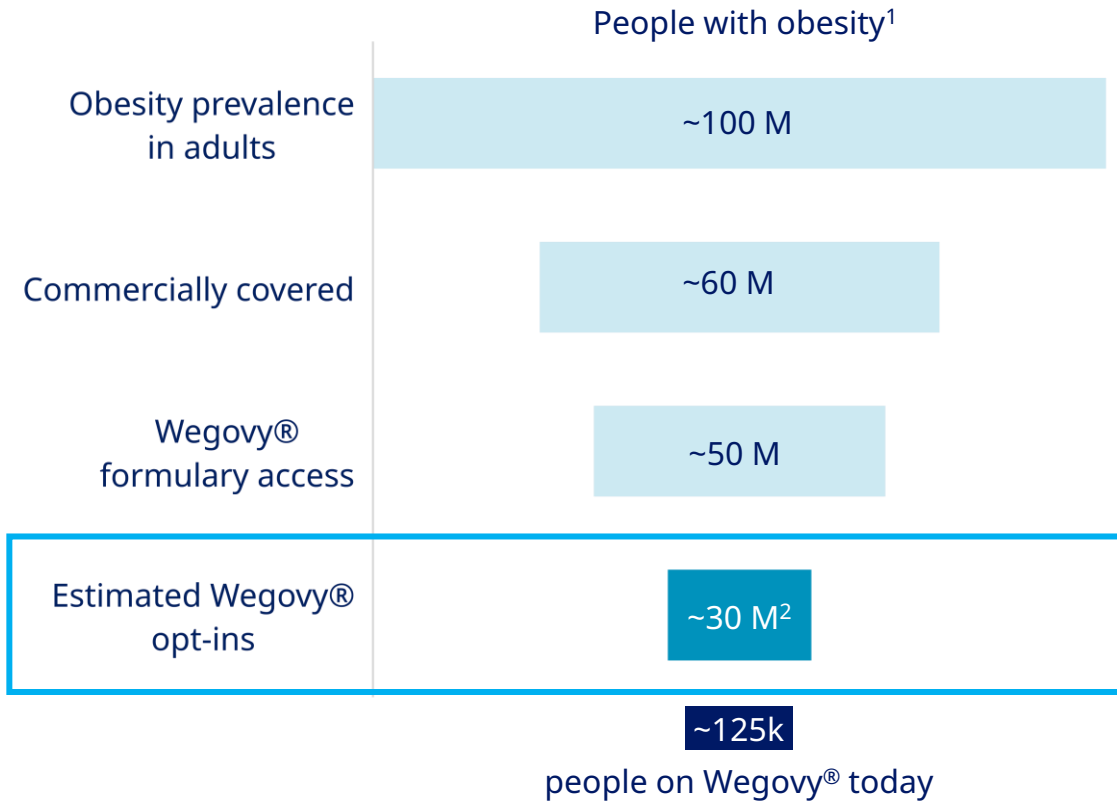
**140**  
million people with a  
BMI > 27

BMI (million of people)	27-30 (43)	30-35 (52)	35-40 (25)	≥40 (20)	Total (140)
No obesity-related comorbidity <sup>2</sup>	7	6	2	2	17
Any obesity-related comorbidity	36	46	23	18	123
Hereof metabolic syndrome <sup>3</sup>	<b>21</b>	<b>26</b>	<b>14</b>	<b>12</b>	<b>72</b>

<sup>1</sup> Patients new to anti-obesity medication reflect source of business, where 75% of patients starting Wegovy® are naïve to anti-obesity medication treatment and 25% have either switched from or restarted anti-obesity treatment, IQVIA Feb. 2022;  
<sup>2</sup> Individuals without any of the following obesity related conditions: T2DM, Pre-diabetes, NASH, NAFLD, obstructive sleep apnea, osteoarthritis, PCOS, ASCVD, Heart failure, asthma, urinary incontinence, hypertension, chronic kidney disease stg. 3 or 4, musculoskeletal pain, dyslipidaemia, metabolic syndrome; <sup>3</sup> Metabolic syndrome defined as two or more of dyslipidaemia; hypertension; prediabetes OR type II diabetes  
 Source: Novo Nordisk real world research; National Health And Examination Survey (NHANES) cycles 2015-2016 and 2017-2018

# Patient access to AOM is improving with around 80% commercial formulary access in the US and 16 countries in IO

## Wegovy® Patient Access Pathway in NAO



## Restricted reimbursement for Saxenda® is progressing

### EXAMPLES



**BMI > 30**  
with one co-morbidity



**BMI > 35**  
With pre-diabetes and risk of CV



~60% coverage by private insurance, 20% of which includes restricted/unrestricted coverage



Saxenda® reimbursed in April 2020 in selected patient groups

Saxenda® now launched in **71 countries** with **16 countries** offering restricted reimbursement; **9 have come in the last 2 years**

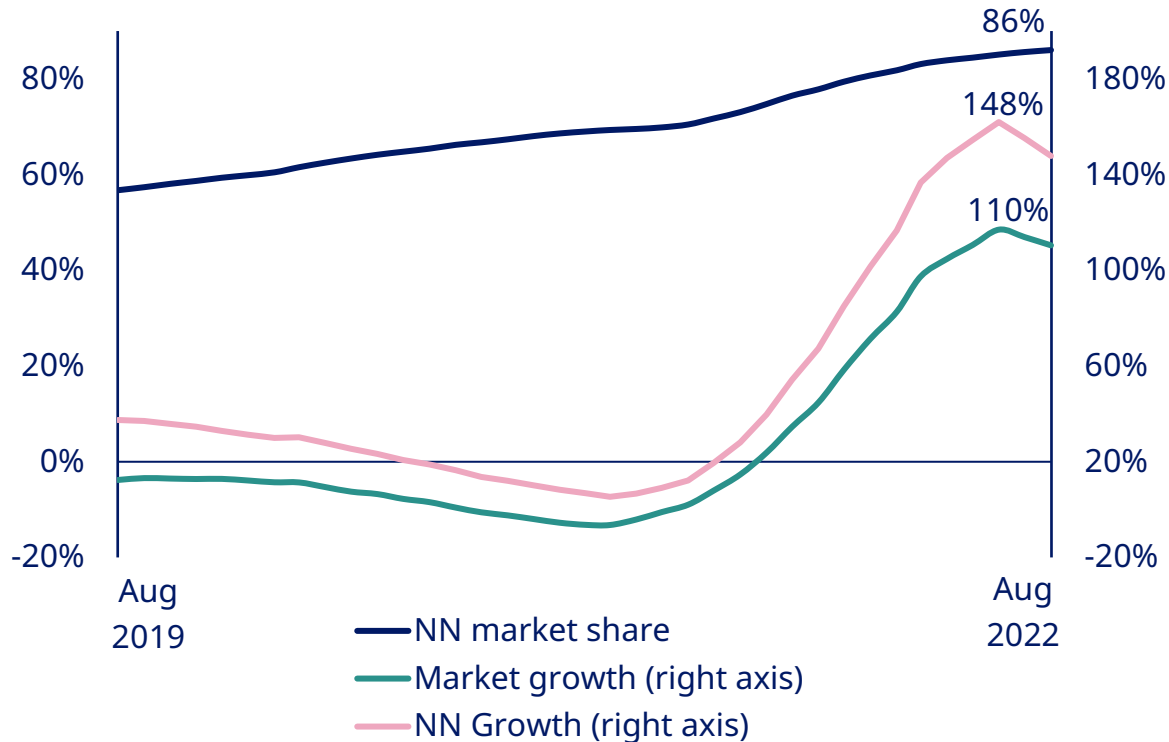
Note: Obesity is defined as BMI > 30.

<sup>1</sup> Prevalence: Adult obesity facts. Centers for Disease Control and Prevention. Accessed Mar 2021

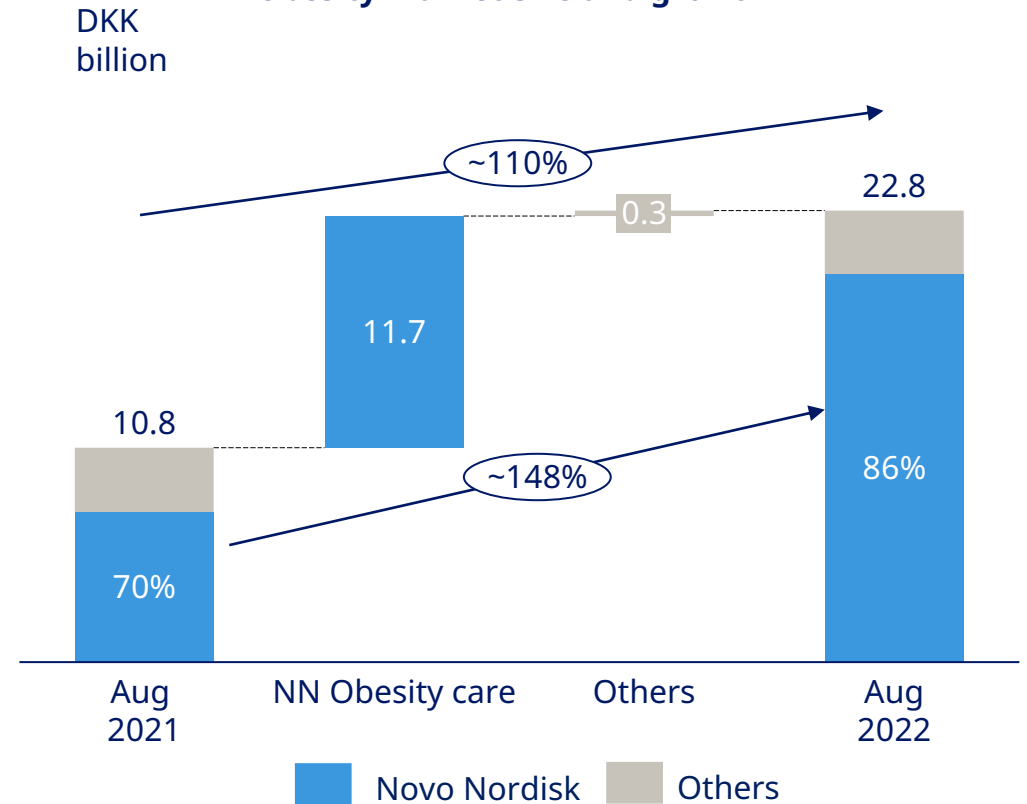
<sup>2</sup> Includes commercial and non-commercial (Fx. US Department of Defense and Medicaid) channels

# Global obesity market growth has been accelerating with Novo Nordisk capturing the majority of growth

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

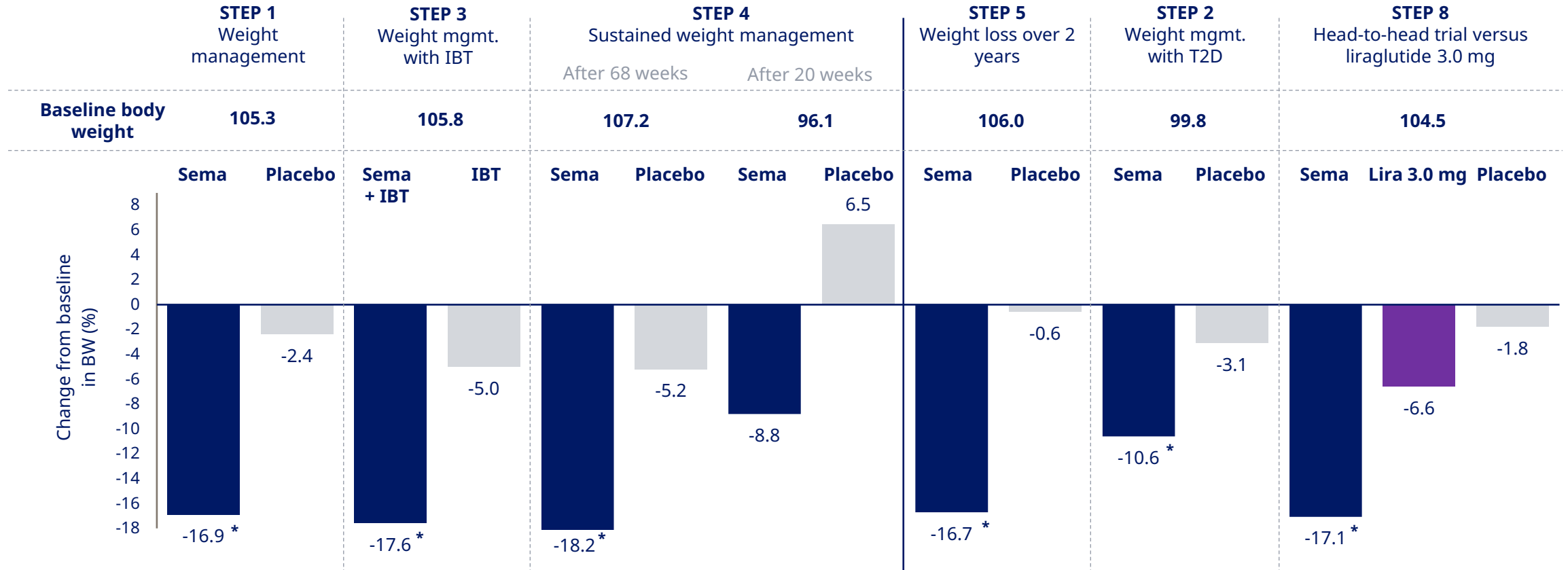


**Obesity market size and growth**



Source: IQVIA, Aug 2022 Value MAT, all countries; Share of growth not depicted due to high growth

# Across the STEP 1, 3, and 4 trials, a weight loss of 16.9% to 18.2% was reported for people treated with semaglutide 2.4 mg

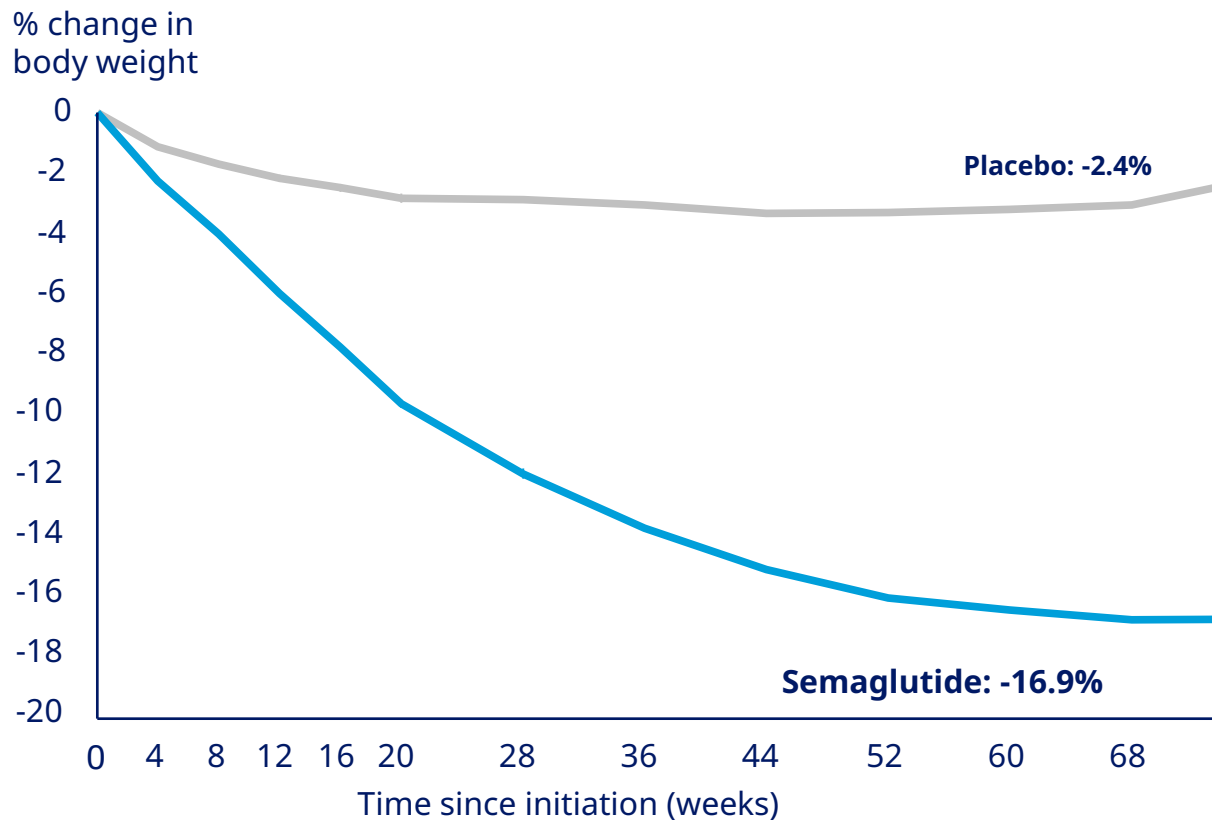


\* P-value <0.0001, based on the trial product estimand (secondary statistical approach): treatment effect if all people adhered to treatment and did not initiate other anti-obesity therapies  
 IBT: Intensive behavioural therapy; Sema: Semaglutide; Lira: Liraglutide; BW: Body weight; T2D: Type 2 diabetes; Mgmt.: Management



# In STEP 1, people treated with semaglutide had a superior weight loss of up to 16.9%

The pivotal STEP 1 trial showed greater than 16% weight loss



Data from STEP 1



- Average age 46
- 74.1% women
- Average BMI - 37.9 kg/m<sup>2</sup>



Improvements in lipid profiles as well as C-reactive protein

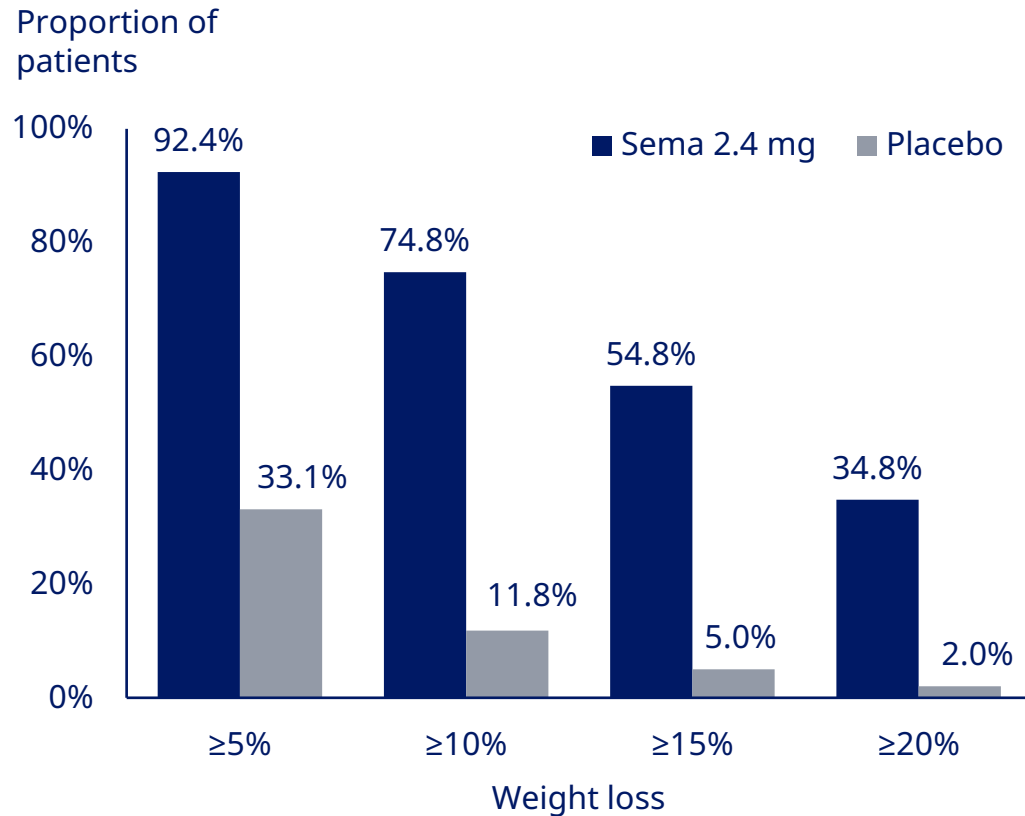


Semaglutide improved health-related quality of life as measured by SF-36 and IWQoL-lite-CT

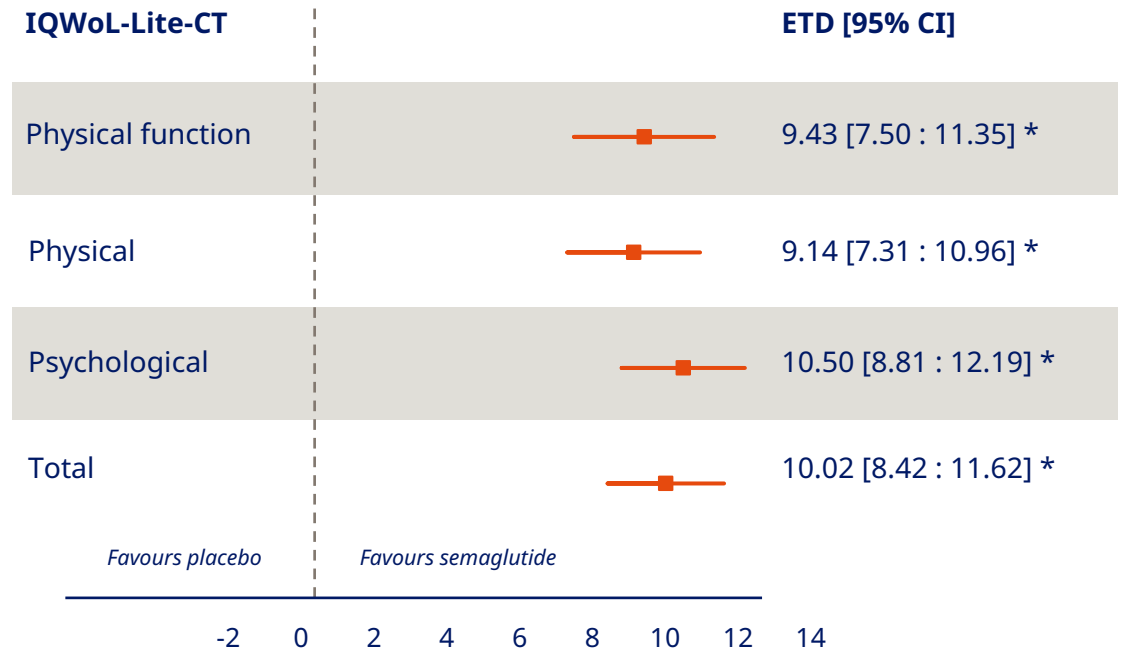
Change in body weight in % depicts observed means since time of randomisation; trial product estimand.  
BMI: body mass index; SF-36: Short Form (36) Health Survey; IWQoL-lite-CT: Impact of Weight on Quality of Life-Lite questionnaire

# In STEP 1, 34.8% of patients treated with sema reached $\geq 20\%$ weight loss and reported improved quality of life versus placebo

**Categorical weight loss**



**Sema 2.4 mg showed a statistically significant treatment difference versus placebo in the IWQoL-Lite-CT PRO**

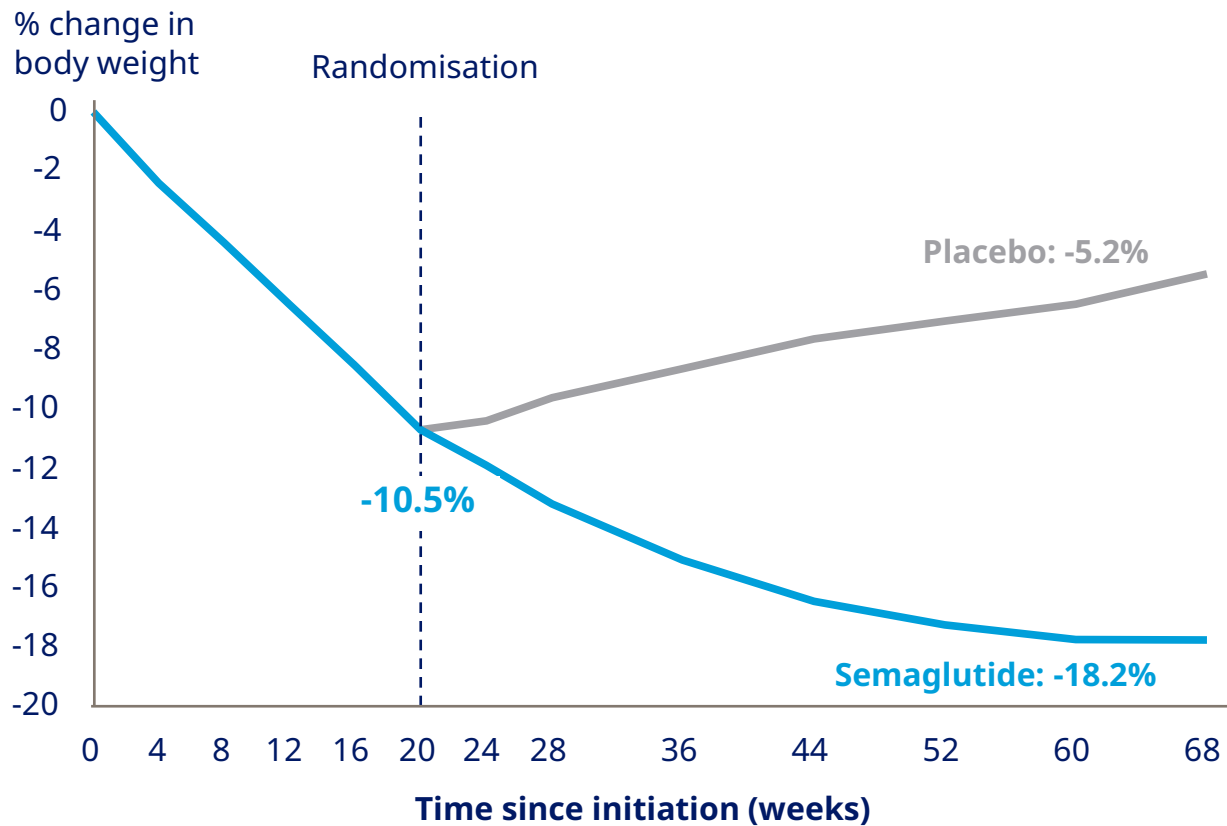


Descriptive statistic only. Based on the on-treatment data, i.e. data for people that are on-treatment at week 68  
Sema: semaglutide

\* statistically significant; p-values other than physical function were not controlled for multiplicity  
PRO: patient reported outcome; CI: confidence interval, ETD: estimated treatment difference, IWQoL-Lite-CT: Impact of Weight on Quality of Life-lite;

# In STEP 4, people treated with semaglutide had a superior weight loss of up to 18.2%

STEP 4 showed significantly greater weight loss post run-in than placebo



## Data from STEP 4



- Average age 46
- 79% women
- Average BMI – 38.4 kg/m<sup>2</sup>



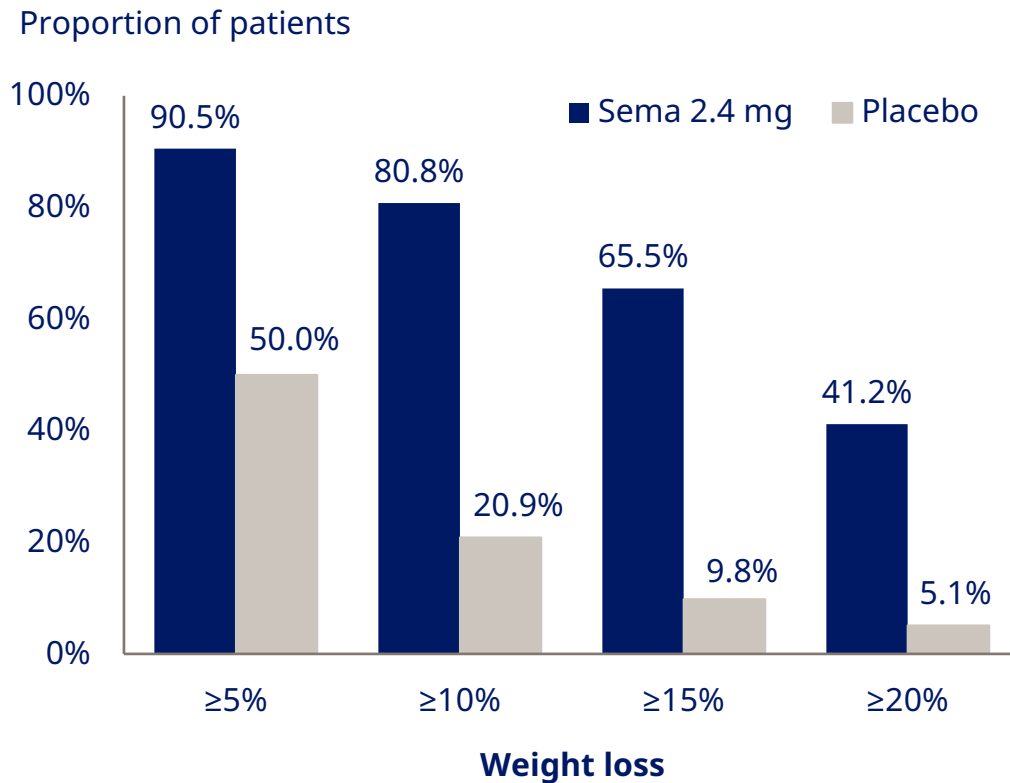
Trial highlights that obesity is a chronic disease requiring sustained treatment



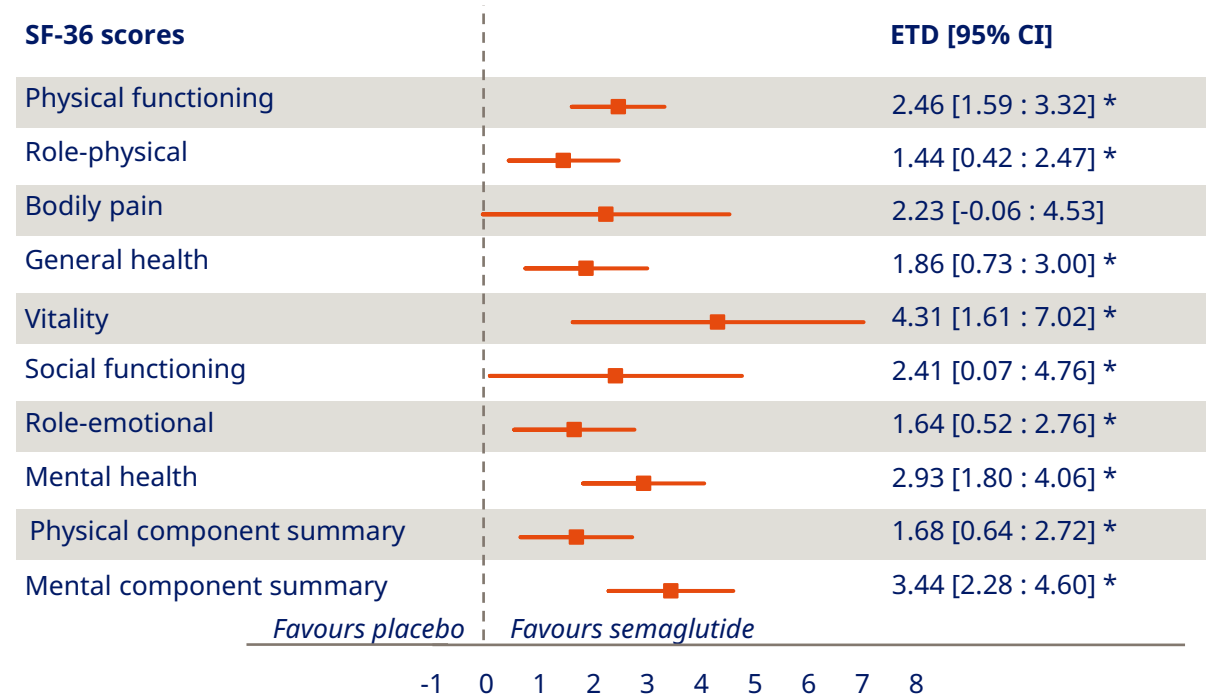
Improvements on a panel of cardiovascular risk markers

# In STEP 4, 41.2% of patients treated with semaglutide reached ≥20% weight loss and reported improved quality of life vs placebo

Categorical weight loss



Sema 2.4 mg showed a statistically significant treatment difference versus placebo in the SF-36 patient reported outcome

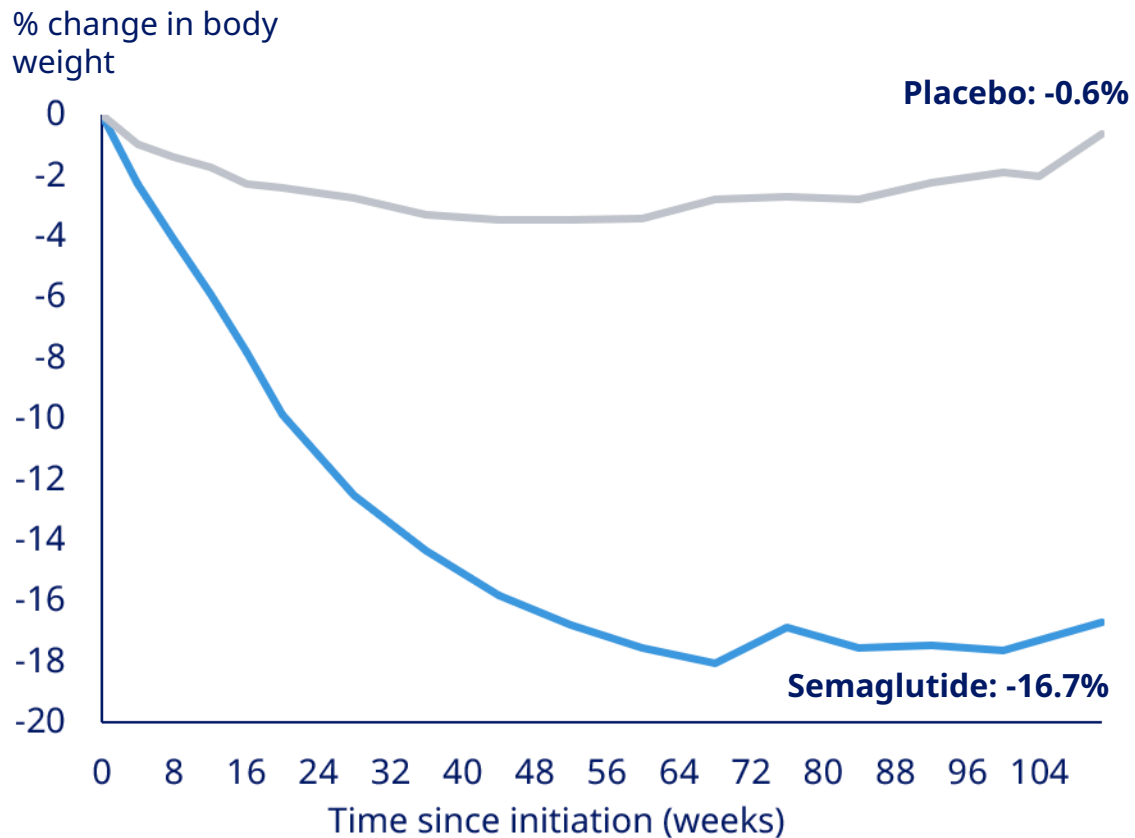


Descriptive statistics only. Based on the on-treatment data, i.e. data for people that are on-treatment at week 68  
Sema: semaglutide

\* statistically significant; p-values other than physical functioning were not controlled for multiplicity  
CI: confidence interval, ETD: estimated treatment difference, Sema: semaglutide, SF-36: Short Form (36) Health Survey

# In STEP 5, people treated with semaglutide 2.4 mg sustained their weight loss over 2 years

### Clinically relevant and sustained weight loss in patients with obesity or overweight



Change in body weight in % depicts observed means since time of randomisation; trial product estimand; mean body weight: 106.0 kg

### Data from STEP 5



**40%** of patients lost  $\geq 20\%$  of their body weight



Semaglutide appeared to have a safe and well-tolerated profile

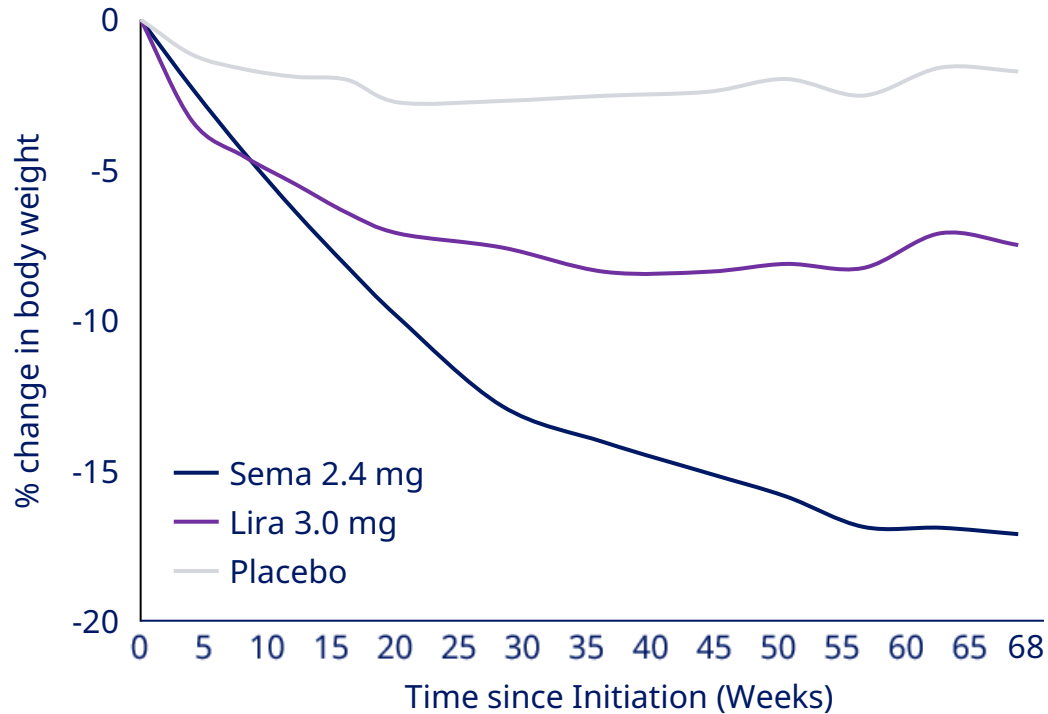


Improvements in lipid profiles as well as C-reactive protein

# In STEP 8, semaglutide 2.4 mg showed weight loss of 17.1% compared to 6.6% with liraglutide 3.0 mg

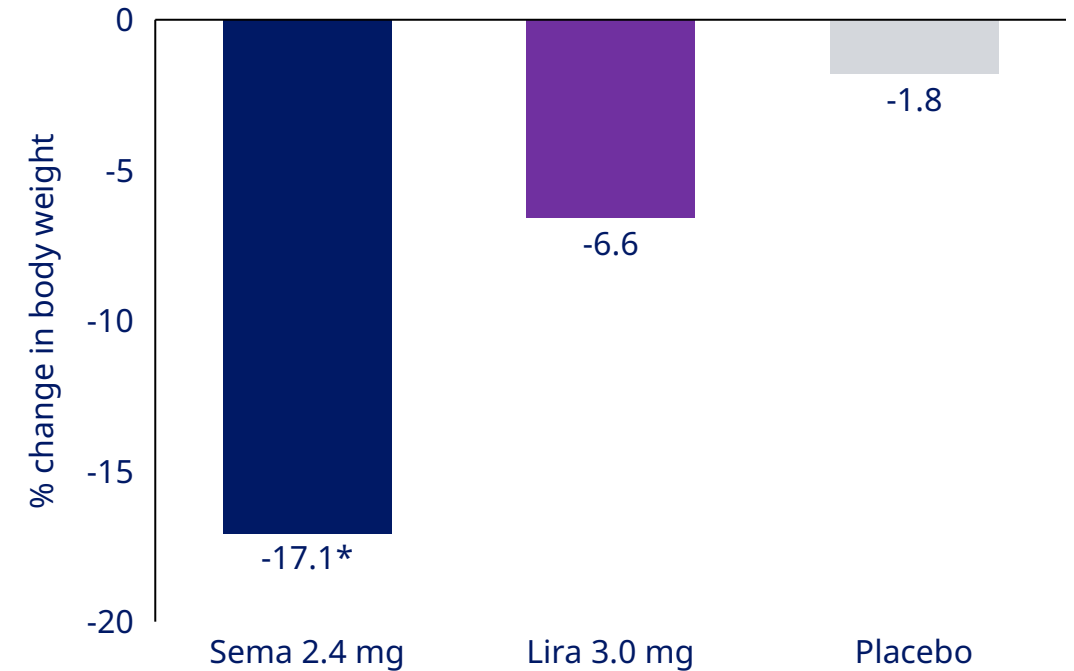
**STEP 8 observed mean change in body weight<sup>1</sup>**

Mean baseline body weight: 104.5 kg



**Statistically significant weight loss with sema 2.4 mg vs lira 3.0 mg**

Mean baseline body weight: 104.5 kg

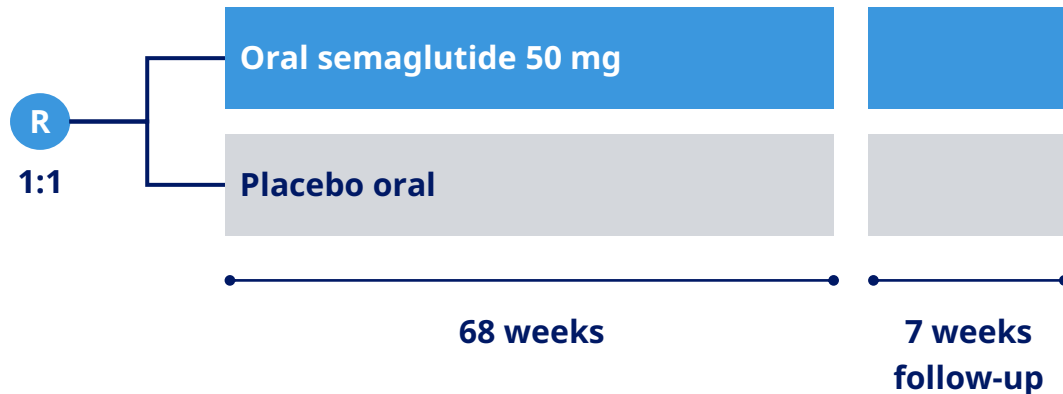


<sup>1</sup> Observed data for the on-treatment period; \*p-value <0.0001 vs lira 3.0 mg; % change in body weight measured as change from baseline. Data shown is the trial product estimand; Sema: semaglutide; Lira: liraglutide

# The phase 3a OASIS trial investigating oral semaglutide 50 mg in obesity initiated in Q3 2021 and expected to complete in H1 2023

Global trial planned was started in H2 2021

Plan to include 660 patients with obesity



## Inclusion criteria

- BMI:  $\geq 27$  kg/m<sup>2</sup> with  $\geq 1$  weight-related comorbidity, or
- BMI  $\geq 30$  kg/m<sup>2</sup>
- Weight-related comorbidities are hypertension, dyslipidaemia, obstructive sleep apnoea and CVD

## Objective

To investigate superiority of oral semaglutide 50 mg vs. placebo on weight loss in people with overweight or obesity

## Primary endpoint

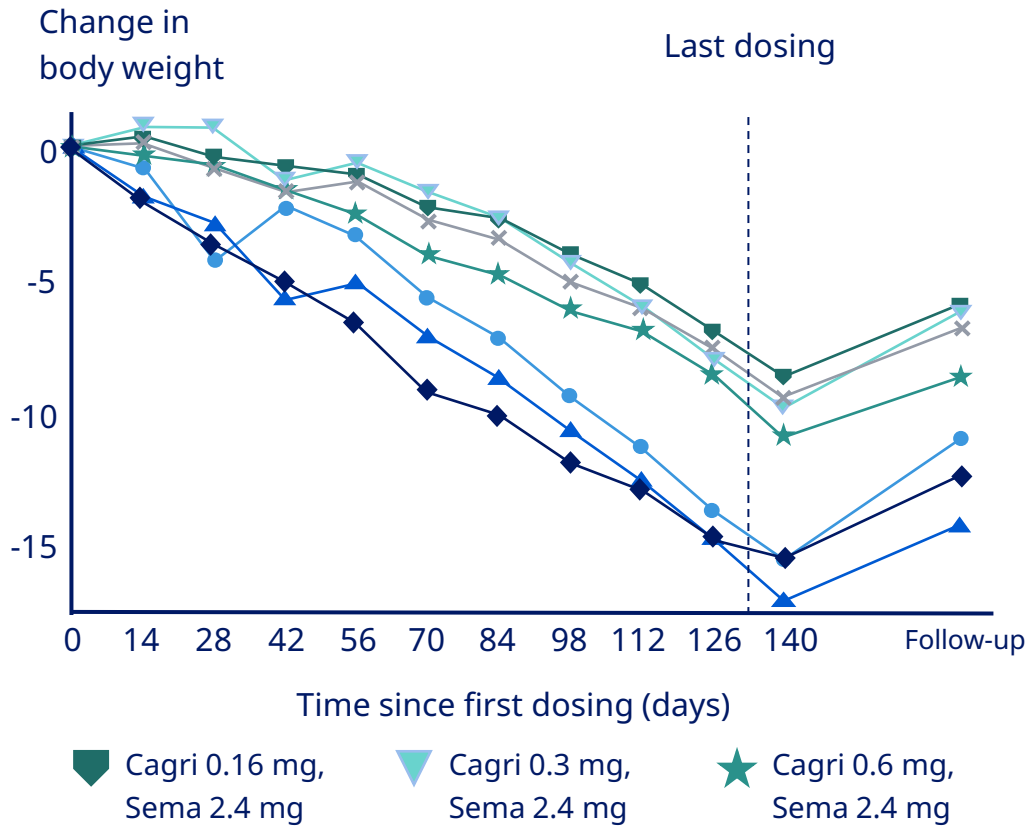
- Change in body weight from baseline (%)
- Body weight reduction  $\geq 5\%$

## OASIS programme scope

- Total of 1,000 patients across three trials: 1) A global (North America and Europe), 2) Japanese and 3) Chinese trial

# In a 20-week phase 1 trial, CagriSema showed weight loss of 17% and appeared to have a safe and well tolerated profile

**Weight loss for different doses of CagriSema in phase 1**



**The GI profile appeared similar to semaglutide 2.4 monotherapy**

	n=12	n=12	n=12	n=12	n=12	n=11	n=24
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
<b>AEs</b>	11 (92)	12 (100)	11 (92)	12 (100)	12 (100)	11 (100)	23 (96)
<b>SAEs<sup>1</sup></b>	0	0	0	1 (8)	0	0	0
<b>AEs leading to withdrawal</b>	1 (8)	0	0	1 (8)	0	0	0
<b>GI disorders</b>	7 (58)	10 (83)	7 (58)	10 (83)	11 (92)	9 (82)	19 (79)

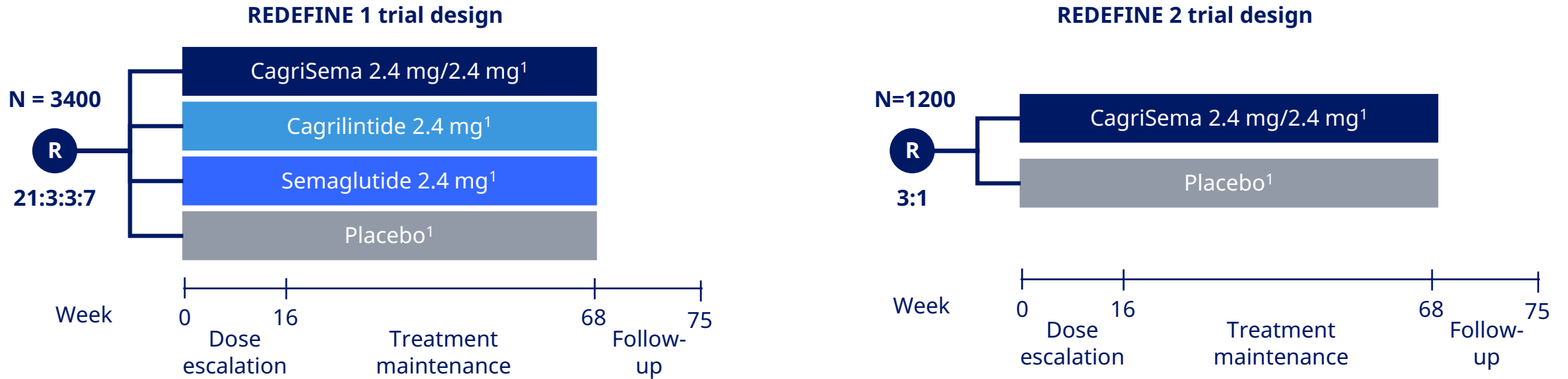
<sup>1</sup>The serious adverse event was meningitis

CagriSema: Cagrilintide in combination with semaglutide; Cagri: Cagrilintide; Sema: semaglutide; SAE: Serious adverse events; GI: Gastro-intestinal; Change in body weight is analysed using a mixed model for repeated measurements, where all changes from baseline in body weight measurements enter as the dependent variables and treatment, visit and baseline body weight enter as fixed effects. Treatment and baseline body weight are nested within visit.

Source: Adapted from Enebo et al. Lancet. 2021 May 8;397(10286):1736-1748.



# The CagriSema phase 3 programme, REDEFINE, was initiated in the fourth quarter of 2022



**Inclusion criteria**

**REDEFINE 1:**

- BMI:  $\geq 30 \text{ kg/m}^2$  or  $\geq 27 \text{ kg/m}^2$  and  $\geq 1$  comorbidity
- Excludes diabetes diagnosis or  $\text{HbA}_{1c} \geq 6.5\%$

**REDEFINE 2:**

- BMI:  $\geq 27 \text{ kg/m}^2$
- Type 2 diabetes,  $\text{HbA}_{1c} < 10\%$

**Primary endpoints:**

- Change in body weight (%)
- Achieve  $\geq 5\%$  body weight reduction

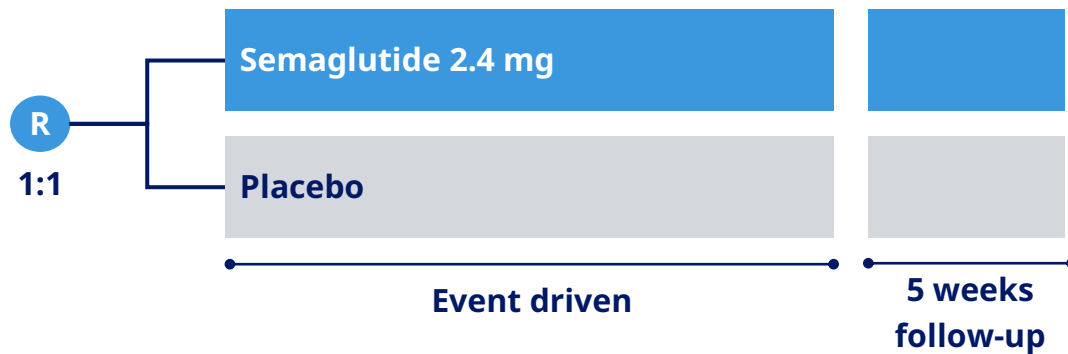
**Confirmatory secondary endpoints:**

- Change in waist circumference
- $\text{HbA}_{1c}$
- Systolic blood pressure
- Patient reported outcomes<sup>2</sup>

<sup>1</sup>As an adjunct to a reduced-calorie diet and increased physical activity in adults with obesity or overweight. <sup>2</sup> Patient reported outcomes include (IWQoL-Lite-CT, SF-36v2, and Vitality score)  
CagriSema: Cagrilintide in combination with semaglutide; T2DM: Type 2 diabetes; BMI: Body mass index;  $\text{HbA}_{1c}$ : Hemoglobin A<sub>1c</sub>; IWQoL-Lite-CT: Impact of weight on quality of life – lite, clinical trials version; Short form 36v2

# The SELECT cardiovascular outcomes trial expected to complete in the middle of 2023

## SELECT trial with 17,500 people with obesity



### Objective

Demonstrate that semaglutide 2.4 mg lowers the incidence of MACE vs placebo

### Primary endpoint

Time from randomisation to first occurrence of MACE<sup>1</sup>

### Secondary endpoints

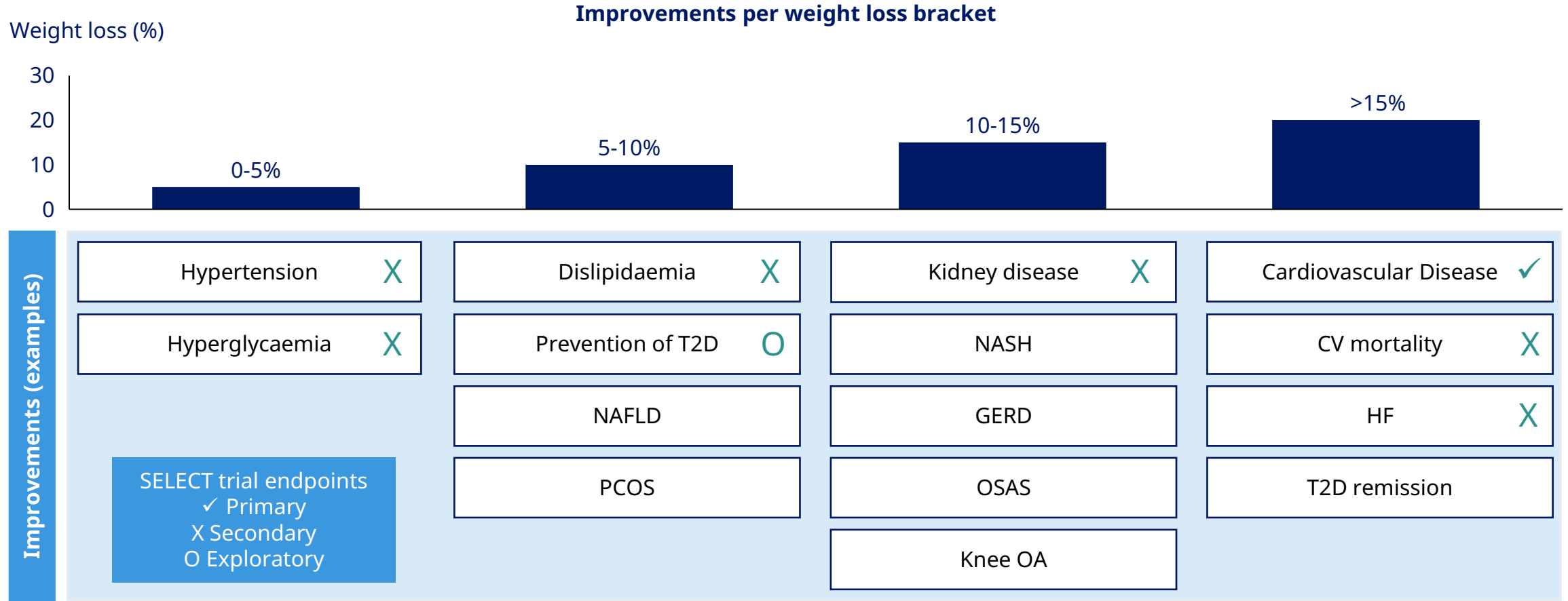
CV death, all-cause death, 5-point MACE composite, composite HF, composite nephropathy, glucose metabolism, other metabolic parameters

### Estimated completion

The trial is expected to complete in the middle of 2023

<sup>1</sup> MACE includes non-fatal myocardial infarction, non-fatal stroke, and cardiovascular death. MACE: Major adverse cardiovascular events; HF: Heart failure; CV: Cardiovascular

# The cardiovascular trial, SELECT, addresses many comorbidities that can be improved with weight management

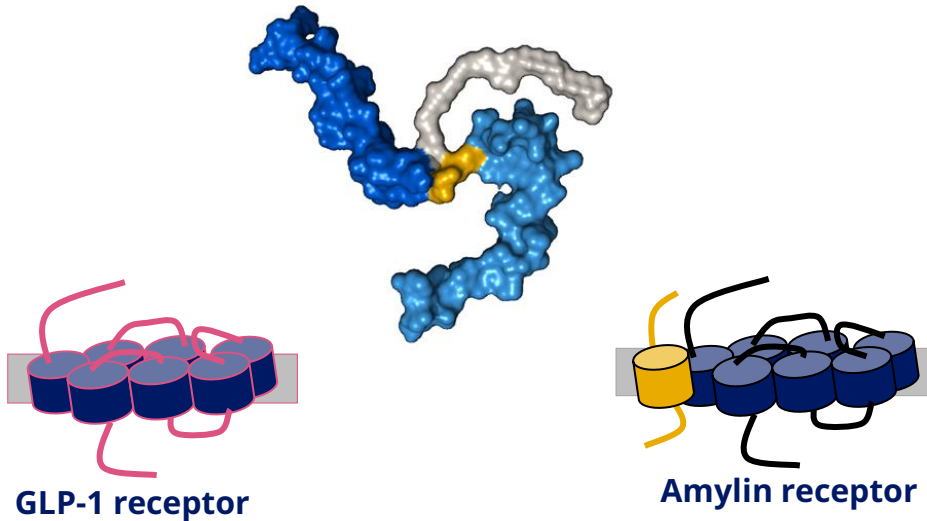


T2D: Type 2 diabetes; NAFLD: Non-alcoholic fatty liver disease; PCOS: Polycystic ovary syndrome; NASH: Non-alcoholic steatohepatitis; GERD: Gastroesophageal reflux disease; OSAS: Obstructive sleep apnea syndrome; OA: Osteoarthritis  
 HF: Heart failure  
 Sources: Garvey WT et al. Endocr Pract 2016;22(Suppl. 3):1-203; Look AHEAD Research Group. Lancet Diabetes Endocrinol 2016;4:913-21; Lean ME et al. Lancet 2018;391:541-5; Benraoune F and Litwin SE. Curr Opin Cardiol 2011;26:555-61; Sundström J et al. Circulation 2017;135:1577-85., Morales E and Praga M. Curr Hypertens Rep 2012;14:170-176

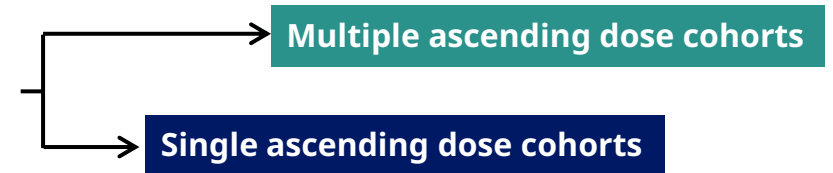
# Protein and peptide expertise combined with oral technology enables oral amycretin entering phase 1

Amycretin is a GLP-1 and amylin receptor co-agonist intended for oral delivery

Phase 1 single dose and multiple dose trial for oral amycretin in obesity initiated in 2022



People living with overweight or obesity, and otherwise healthy



## Trial objectives

- Assess the safety and tolerability of oral amycretin
- Assess PK profile and explore PD effects

## Next steps

- Phase 1 initiation Q2 2022

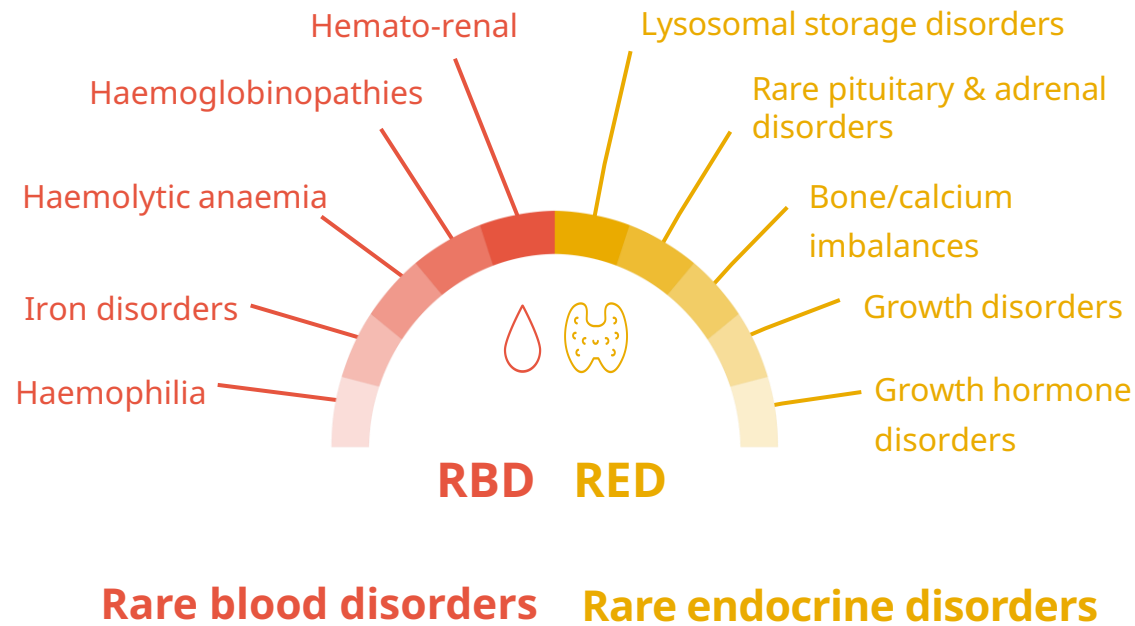
Utilising the SNAC technology

# Rare disease

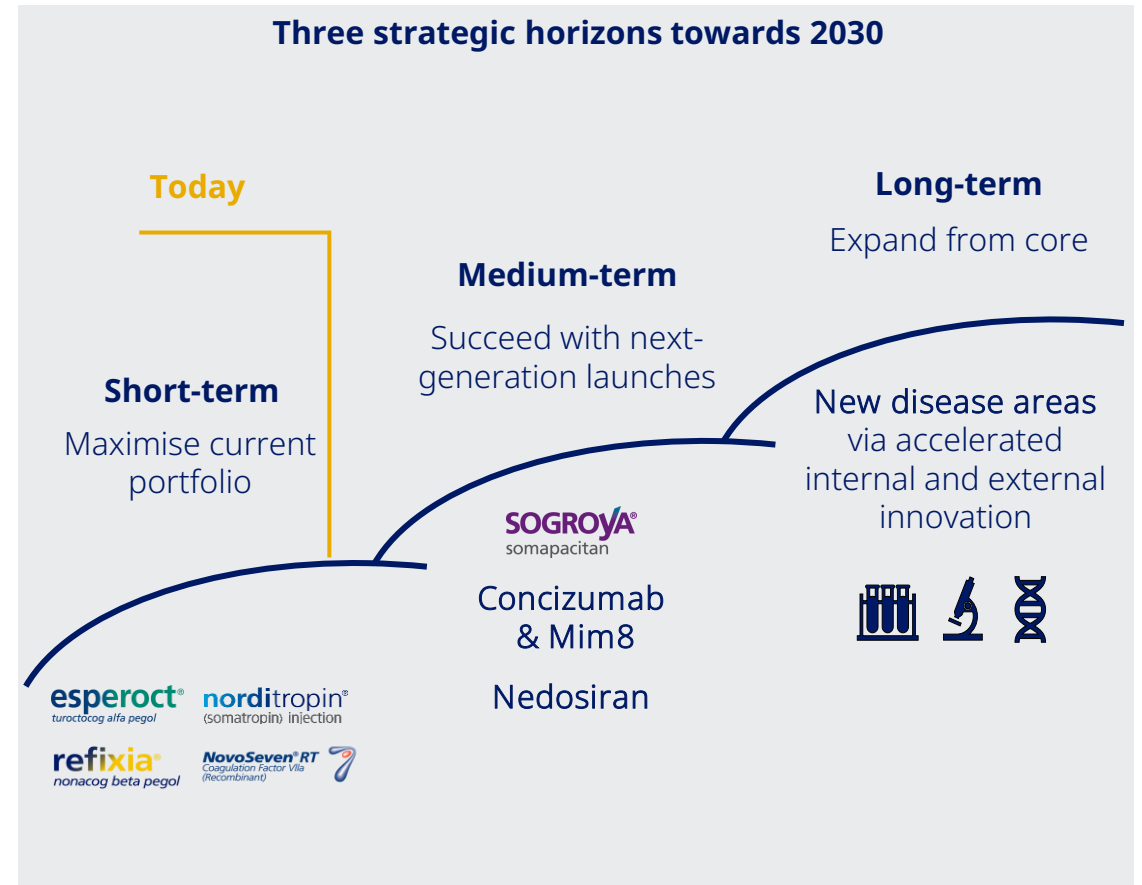
Rare disease background	78
Rare disease innovation	81

# Building upon a 40-year legacy to capture the Rare disease strategic opportunity

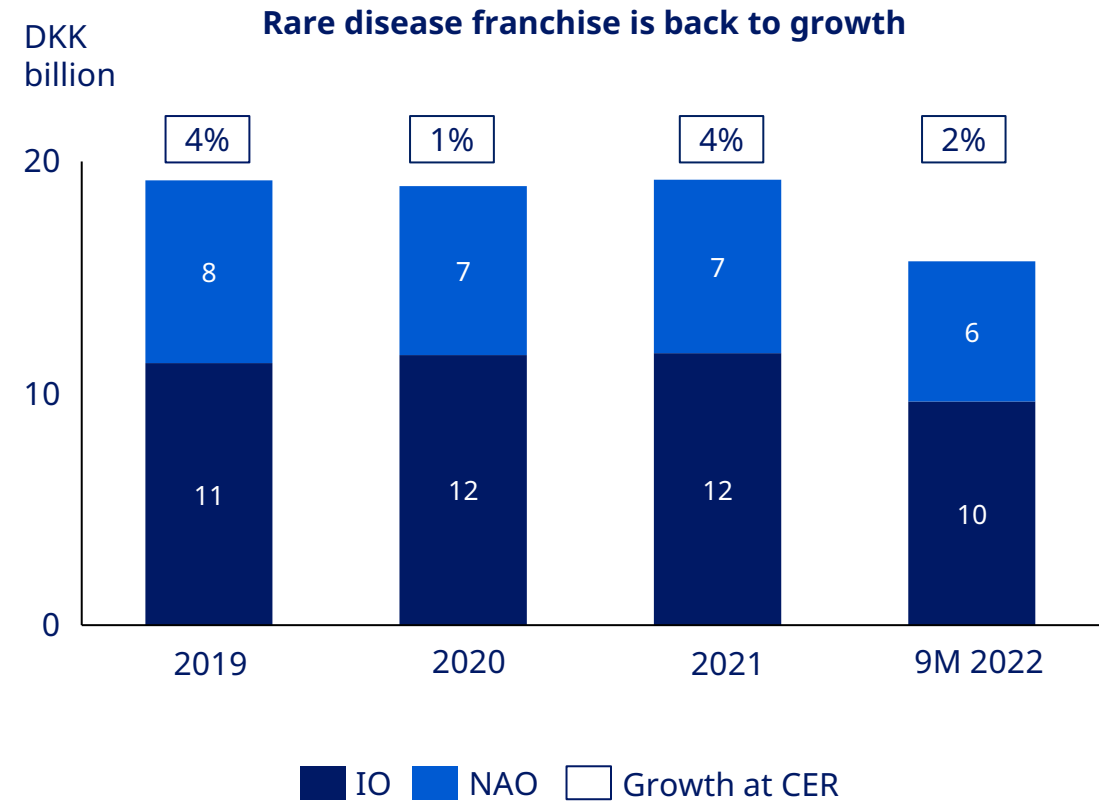
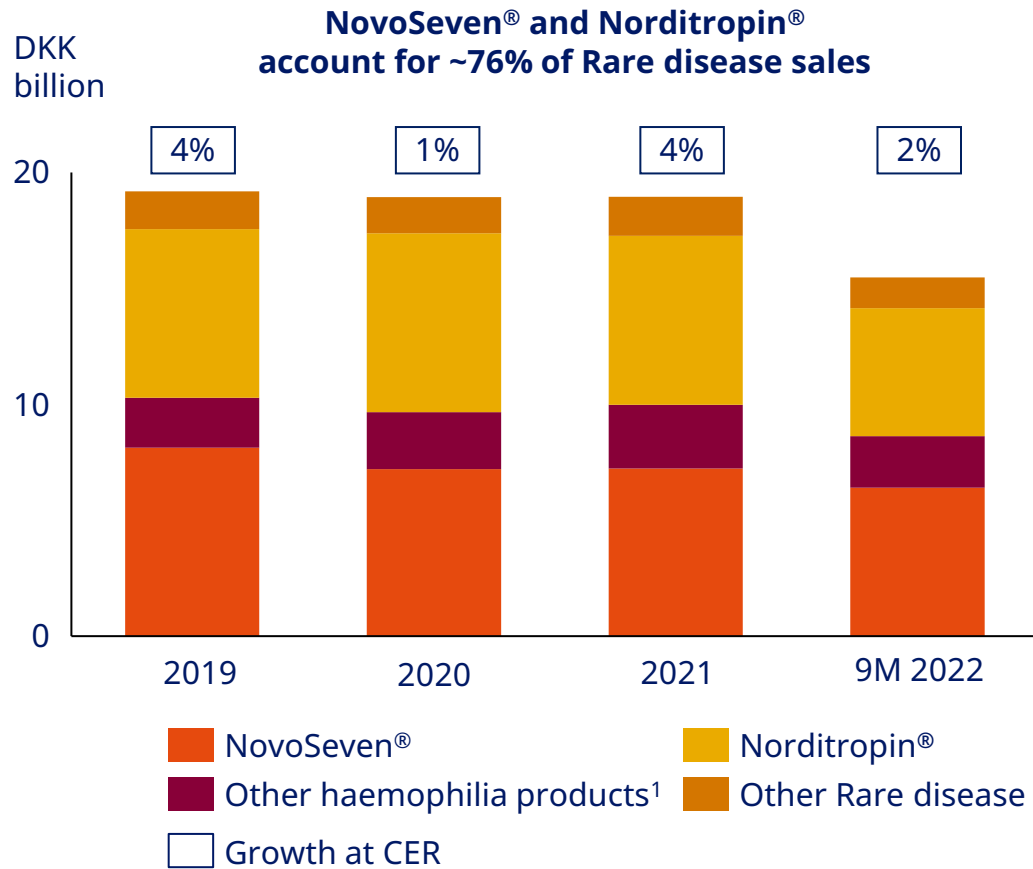
## A strategy anchored in Rare blood and endocrine disorders



## Three strategic horizons towards 2030



# Rare disease sales increased by 2%, driven by commercial execution and key brands Esperoct® and Refixia®

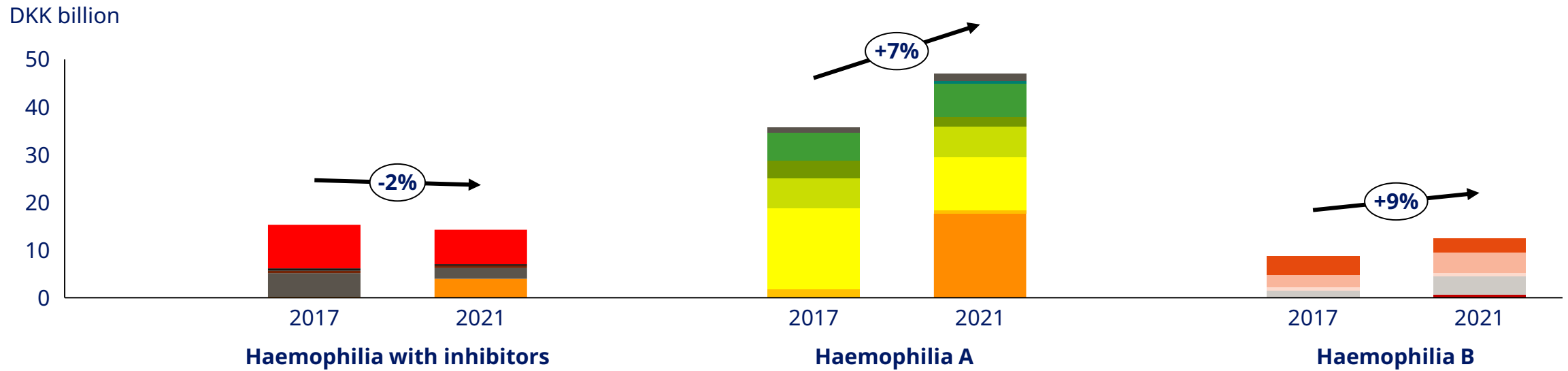


Source: Quarterly company announcement

Note: Company reported sales; CER: Constant exchange rates; 9M: 9 months; <sup>1</sup>Other haemophilia products primarily consists of Vagifem® and Activelle®

# Haemophilia is a rare disease with severe unmet medical needs but the market is highly competitive

Recombinant haemophilia product sales



Patients<sup>1</sup>

~ 6,000

~ 165,000

~ 35,000



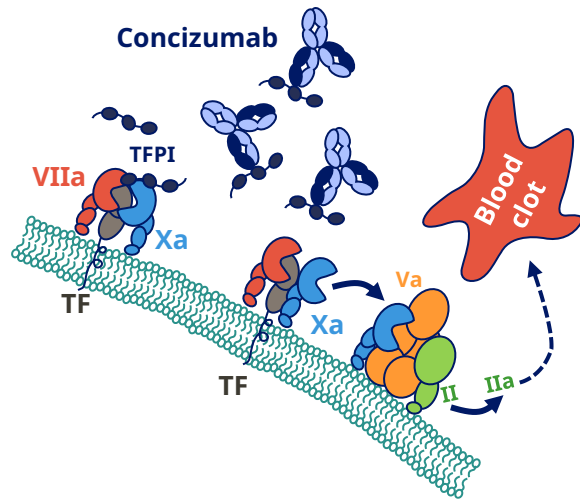
<sup>1</sup> Total diagnosed patients in segment, WFH annual survey 2020 (numbers may be understated as 120 out of 147 countries responded); <sup>2</sup> Obizur only indicated for acquired haemophilia; <sup>3</sup> Plasma-derived; <sup>4</sup> Part of the Hemlibra sales is used for treatment of haemophilia A patients in 2021

Source: Company reported sales and Evaluate Pharma

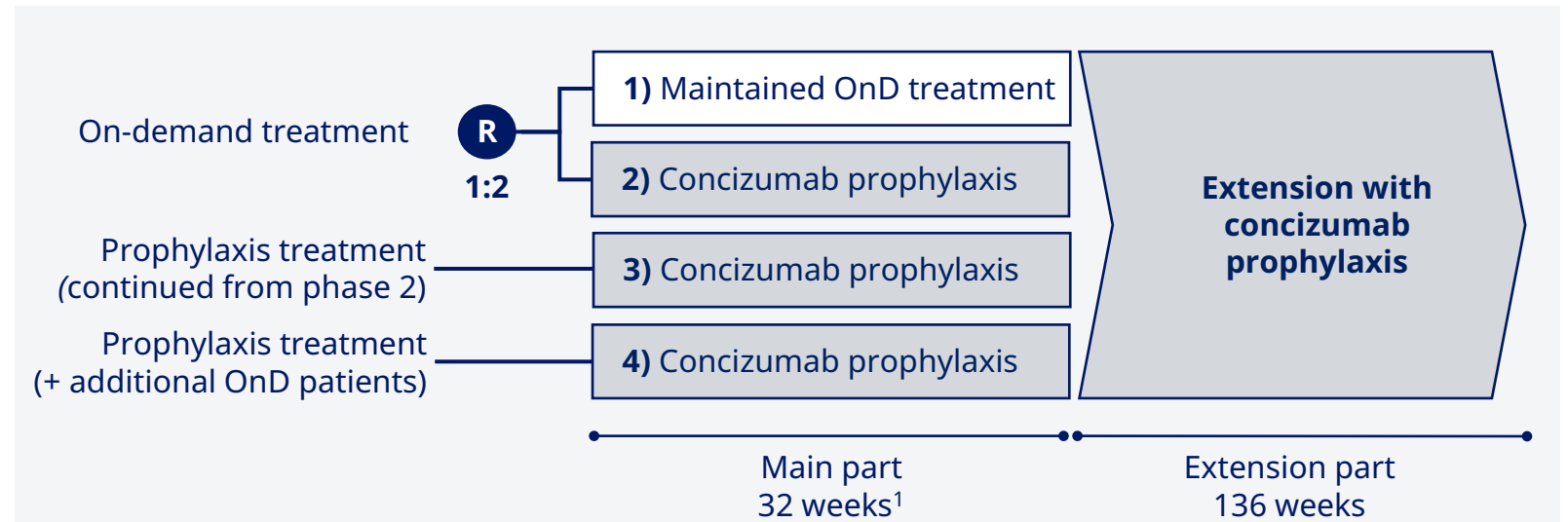


# Explorer 7 trial evaluated safety and efficacy of concizumab in 132 haemophilia A and B patients with inhibitors

## Concizumab binds TFPI, enabling thrombin generation and clot formation



## Explorer 7 trial design



### Trial Objective

Assess the efficacy of concizumab prophylaxis vs no prophylaxis in reducing number of bleeding episodes in adults and adolescents with haemophilia A and B with inhibitors

### Primary endpoint

Number of treated bleeding episodes from start of treatment to the end of the main phase

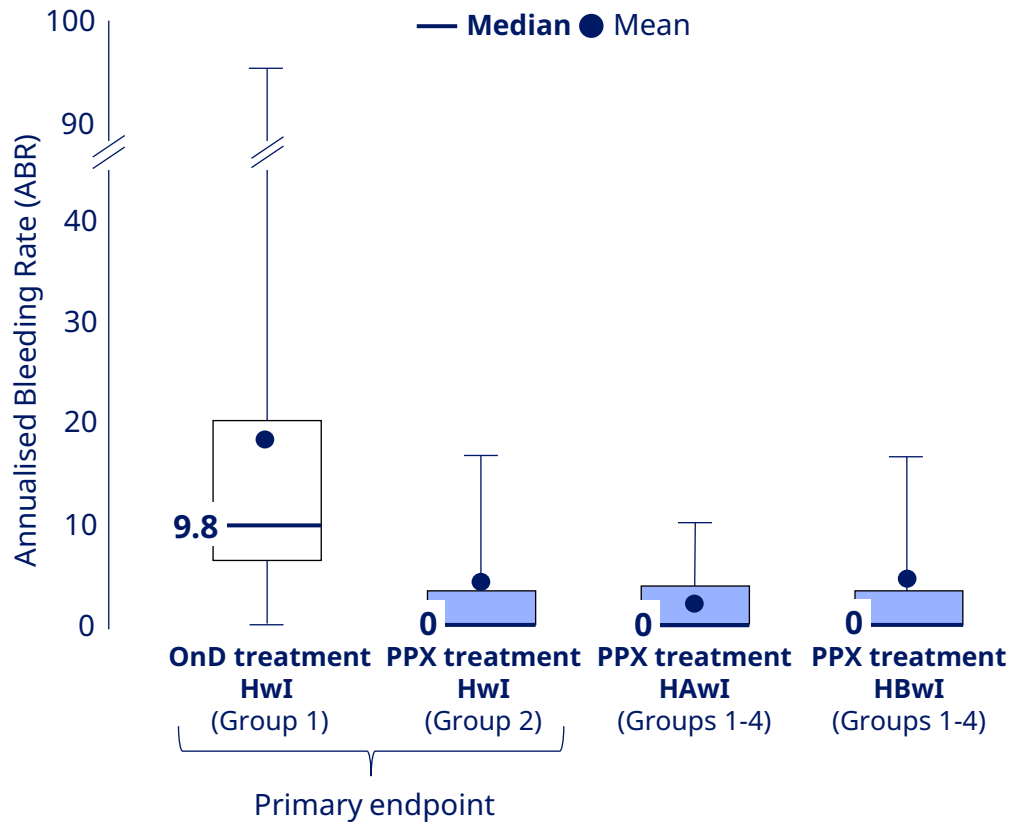
### Key inclusion criteria

- Males ≥12 years with haemophilia and inhibitors, treated with bypassing agents within last 24 weeks
- For on-demand, minimum six bleeding episodes within last 24 weeks

<sup>1</sup>At least 24 weeks for arm 1  
 TF: Tissue factor; TFPI: Tissue factor pathway inhibitor; OnD: On-demand; R: Randomisation

# In the Explorer 7 trial, concizumab reduced the number of bleeds in adults and adolescents with inhibitors

Explorer 7 trial results: Annualised bleeding rate per patient group



## Key highlights

### Efficacy

- **Median ABR was 0** for concizumab prophylaxis treatment, compared to 9.8 in the on-demand treatment group
- Estimated mean ABR was 1.7 for concizumab prophylaxis treatment, compared to 11.8 in the on-demand treatment group
- For patients on concizumab prophylaxis, **64% had 0 bleeds** in Group 2

### Safety

- Concizumab appeared to have a **safe and well tolerated** profile

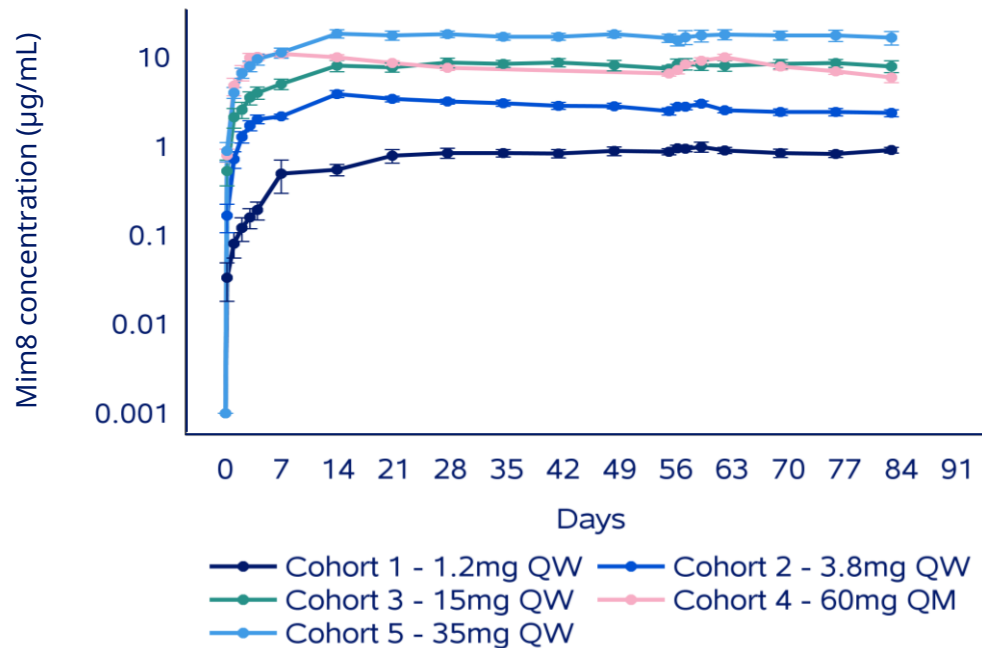
### Status

- US/JP submission for inhibitor indications completed in Q3 2022
- Explorer8 in non-inhibitor patients is completed in Q3 2022

Note: The box represents Q1-Q3 (25<sup>th</sup> to 75<sup>th</sup> percentile). Whiskers are 5<sup>th</sup> and 95<sup>th</sup> percentile.  
 HA: Haemophilia A; HB: Haemophilia B; HAwI: Haemophilia A with inhibitors, HBwI: Haemophilia B with inhibitors; OnD: On-demand; PPX: Prophylaxis; ABR annualised bleeding rate

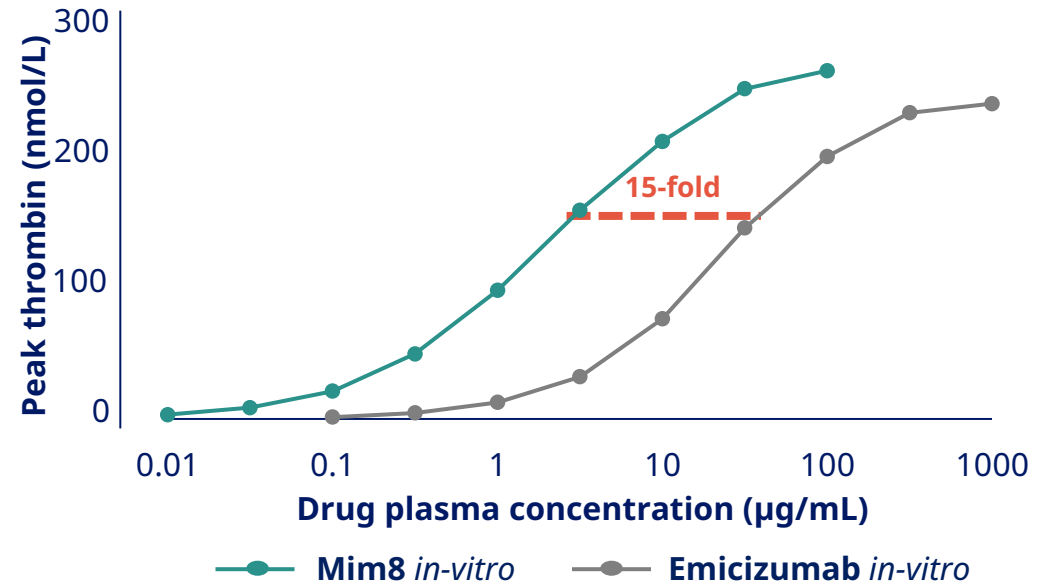
# Interim data from Mim8 phase 1/2 show that PK/PD profiles support weekly to monthly low volume dosing

Mim8 pharmacokinetic properties support weekly and monthly dosing



- Mim8 concentration profiles increased with dose
- Mean concentrations at steady state were comparable for Cohort 3 (weekly dosing) and Cohort 4 (monthly dosing)

Higher potency of Mim8 vs emicizumab enabling a low dosing volume

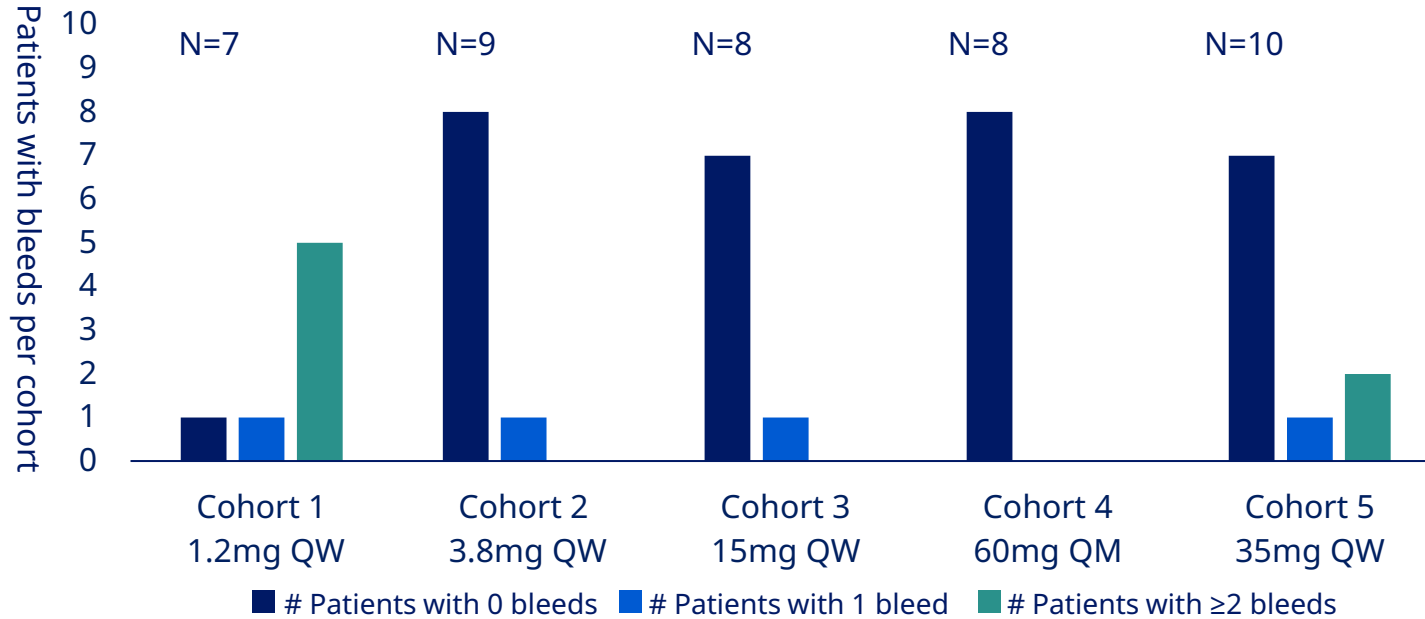


- The PD marker, peak thrombin generation, increased with Mim8 dose
- *In-vitro* exposure-response curves in haemophilia A-like plasma show a 15-fold higher potency of Mim8 compared to emicizumab

The peak thrombin plot represents *in-vitro* data: human plasma samples from the healthy participants of the SAD cohort were made HA-like with anti-FVIII antibodies, and spiked with different concentrations of Mim8 or commercially available emicizumab. PK: Pharmacokinetics; PD: Pharmacodynamics; QW: Once-weekly; QM: once-monthly. Reference: FRONTIER 1, 12-week main phase cohort 1-5. Chowdary P, et al. FRONTIER1: A Phase 1/2 Dose Escalation Study of a Novel Factor VIIIa Mimetic Bispecific Antibody, Mim8, for Evaluation of Safety, Pharmacokinetics, and Efficacy. Abstract presented at ISTH 2022; Windyga J, et al. Mim8 is associated with improved thrombin generation vs. emicizumab in patients with haemophilia A, with and without inhibitors. Abstract presented at ISTH 2022; Novo Nordisk data on file

# In the phase 1/2 trial, Mim8 appeared to have a well tolerated safety profile and read out with exploratory efficacy

Low number of patients with treated bleeds after cohort 1



Exploratory analysis implied that >70% of patients enrolled had no bleeds in the 12 weeks

## Mim8 safety characteristics

### Adverse events

- No dose-dependency on rates, causality, type or severity of adverse events
- No thromboembolic events
- Three serious AEs deemed unrelated to trial product and two hypersensitivity reactions
- Injection site reactions in only 1% of injections (6 events of ~600 injections given)

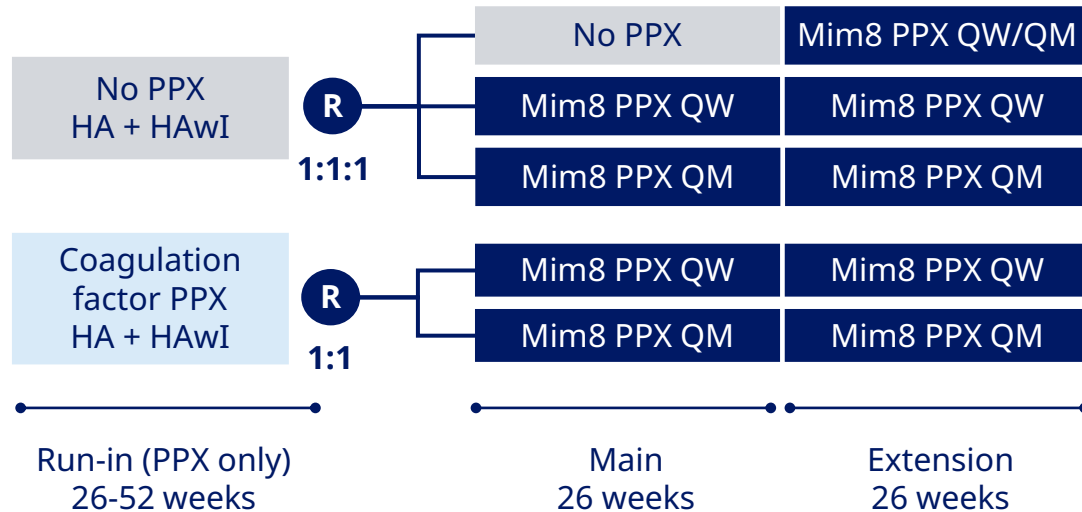
### Anti-Mim8 antibodies

- No occurrence of anti-Mim8 antibodies detected

**Overall, no safety concern observed**

# The pivotal phase 3 trial with Mim8 was initiated in Q4 2022

## FRONTIER 2: Mim8 phase 3 pivotal trial in ~260 adults & adolescents



### Trial design

- Novel and accelerated design minimising time from phase 2 into phase 3 with phase 3 dosing starting in Q4 2022
- Testing of weekly and monthly Mim8 prophylaxis treatment for previously on-demand or coagulation factor prophylaxis patients

### Trial objective

- On demand: Superiority of Mim8 prophylaxis vs no prophylaxis
- Prophylaxis: Superiority of Mim8 prophylaxis vs coagulation factor prophylaxis run-in period

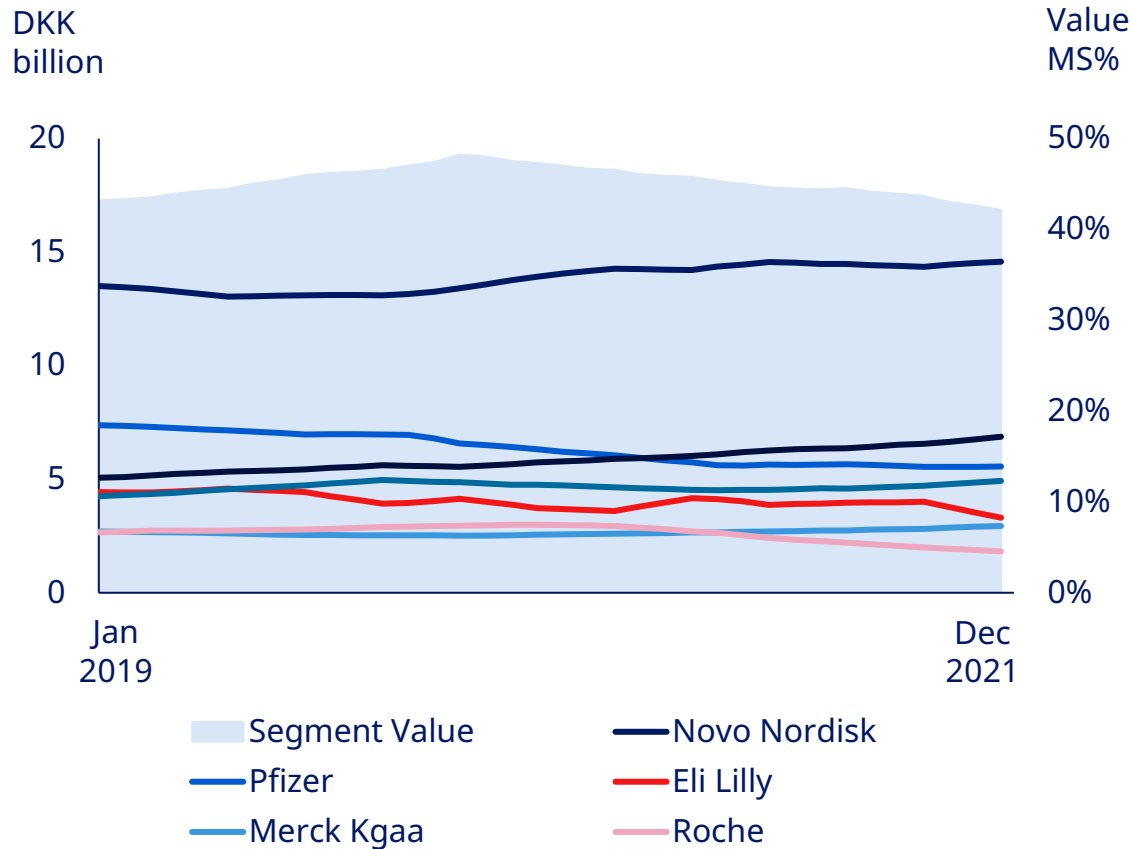
### Key trial endpoints

- ABR for treated bleeds over 26 weeks of treatment
- Overall safety of Mim8 prophylaxis including occurrence of anti-Mim8 antibodies and injection site reactions

*The second phase 3a trial, FRONTIER3, is expected to initiate treatment with Mim8 in the coming months*

# While Norditropin® is the market leader within GHD market, Sogroya® represents an opportunity for patients

**Novo Nordisk leadership in competitive hGH market**



**A portfolio offering across markets**

**Sogroya® launches**

- Once-weekly efficacious treatment on par with Norditropin®
- Appears to have safe profile and no injection site reactions
- Simple and easy-to-use device
- Phase 3 trial towards broad range of indications (e.g. SGA, Turner, Noonan, ISS) to expand the market

**Norditropin® strategy**

- Accompany markets slower to transition and specific patient groups
- Apply broad label across eight indications

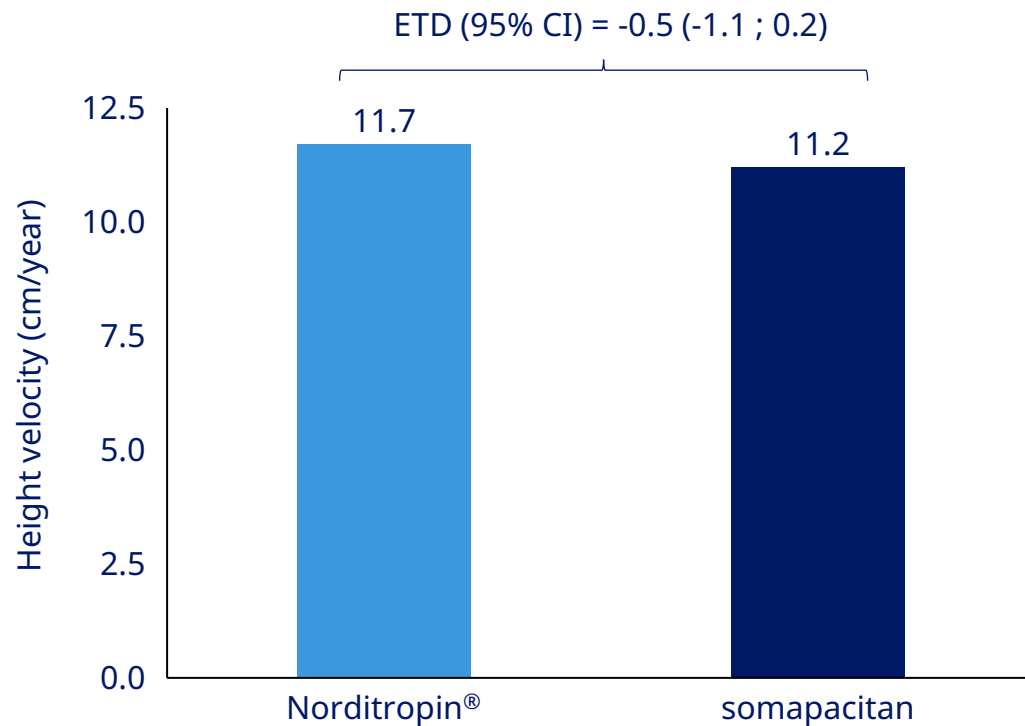
**SOGROYA®**  
somapacitan

**norditropin®**  
(somatropin) injection

hGH: Human growth hormone; SGA: Small for gestational age, ISS; Idiopathic short stature  
Source: IQVIA, MAT Dec 2021; US panels for GHT has been removed from IQVIA from Jan 2022 version

# Sogroya® phase 3 trial successfully completed with aspirational target product profile achieved

Phase 3a trial results in children with GHD



## Key highlights

### Efficacy

- Non-inferiority versus Norditropin® for the primary endpoint, height velocity, at week 52 was confirmed
- IGF-I SDS, bone age and glucose metabolism were all similar between somapacitan and Norditropin®

### Safety and tolerability

- Overall the safety profile of somapacitan appeared to be similar to the well-known safety profile of daily GHD treatment
- No local tolerability issues were identified

### Other treatment parameters

- Significantly reduced treatment burden<sup>1</sup> compared to Norditropin®

### Next steps

- Submission took place in Q2 2022

<sup>1</sup> Measured using patient reported outcome TB-CGHD-P (Treatment burden measure - child growth hormone deficiency - parent)

ETD: Estimated treatment difference; IGF-I SDS: Insulin growth factor-1 standard deviation score; GHD: Growth hormone deficiency; IGF-I SDS: Insulin growth factor-1 standard deviation score


# Novo Nordisk and 2seventy bio extend partnership in next-generation genome editing for people with haemophilia A


Lifelong correction via a unique modality

 Potentially lifelong correction of FVIII deficiency

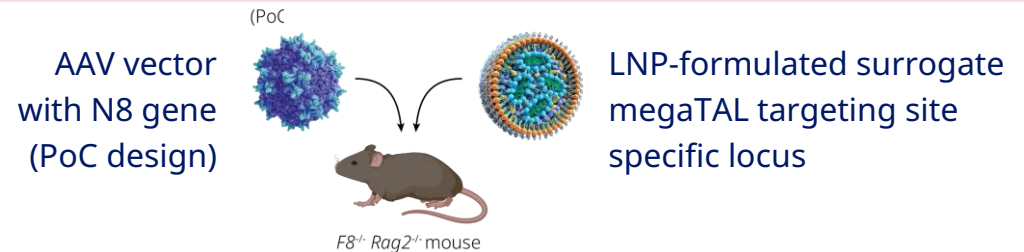
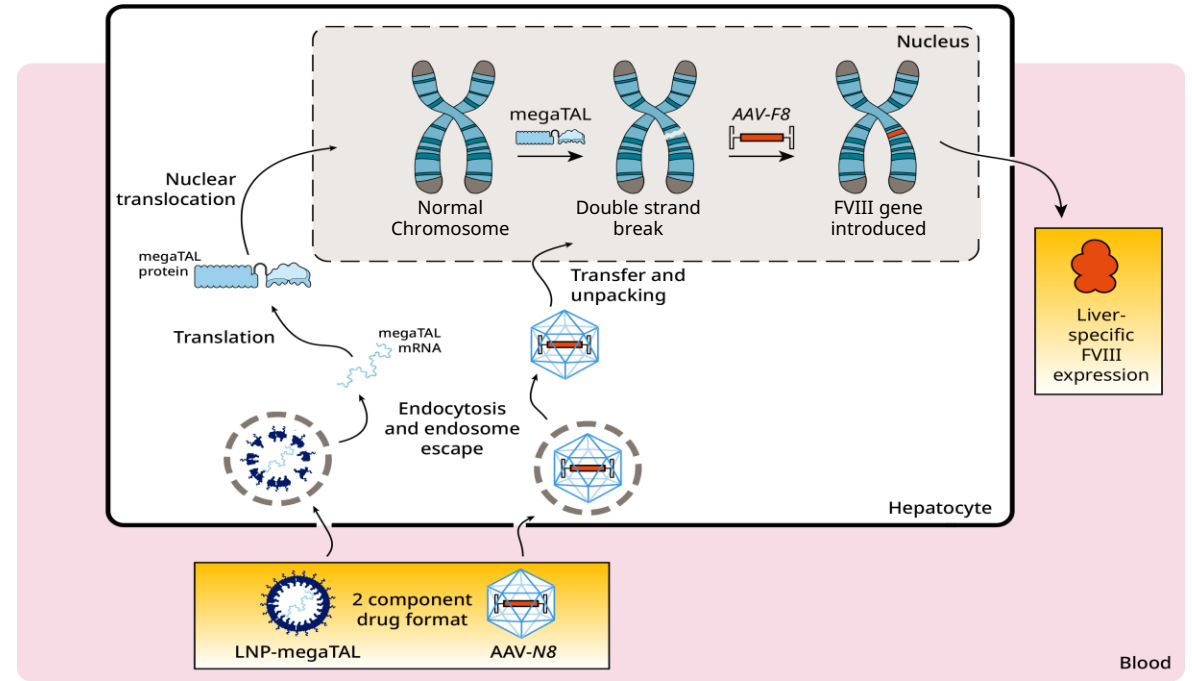
 FVIII gene engineered and packed in an AAV vehicle

Utilising the skills of both 2seventy bio and Novo Nordisk

 Utilisation of **megaTAL™** technology, in-vivo mRNA manufacturing/purification platform, and gene editing know-how

 **Haemophilia A** understanding and protein and molecular engineering capabilities

Mode of action





# Other serious chronic diseases

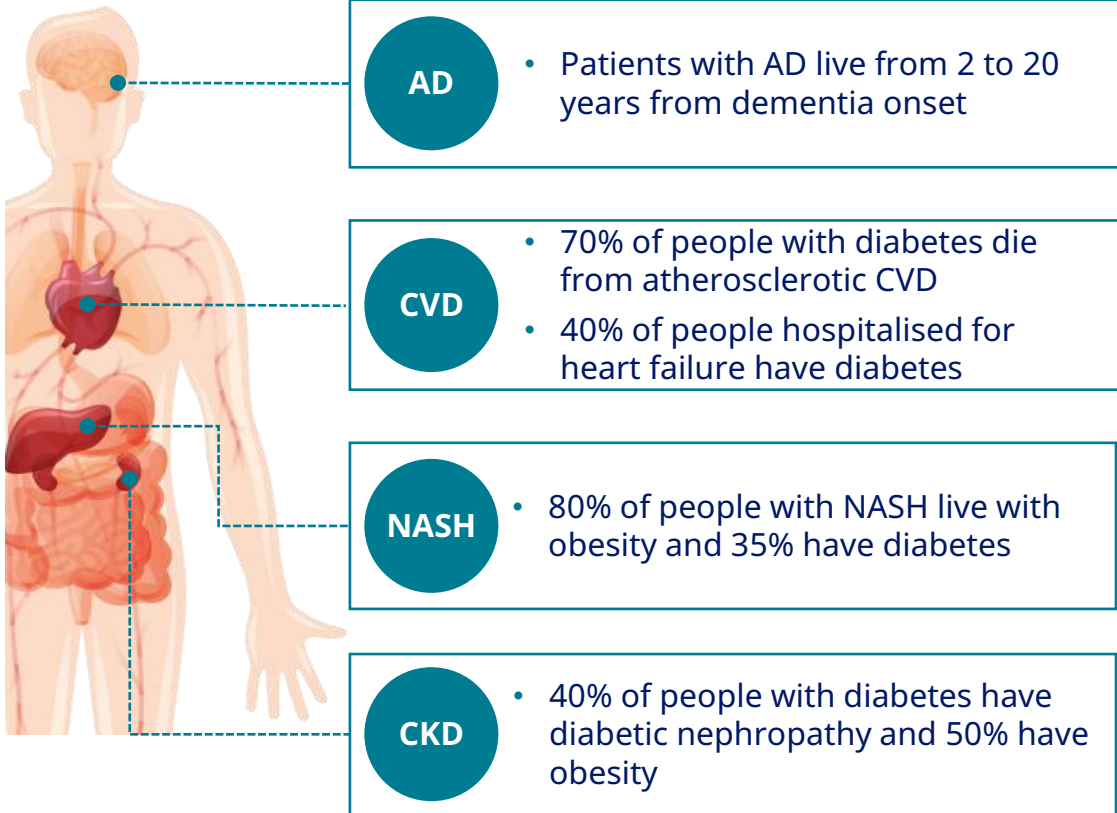
The unmet needs	90
Cardiovascular disease	91
Non-alcoholic steatohepatitis	94
Alzheimer's disease	101
Stem cells	104



# Novo Nordisk is expanding into other serious chronic diseases

## Serious chronic diseases are often associated with diabetes and obesity

## New therapeutic areas represent patient populations with high unmet medical needs



	Estimated patients	Available treatments
<b>AD</b>	~85 million	No approved disease modifying medical treatments

	Estimated patients	Number of related deaths
<b>CVD</b>	~420 million	~20 million annually

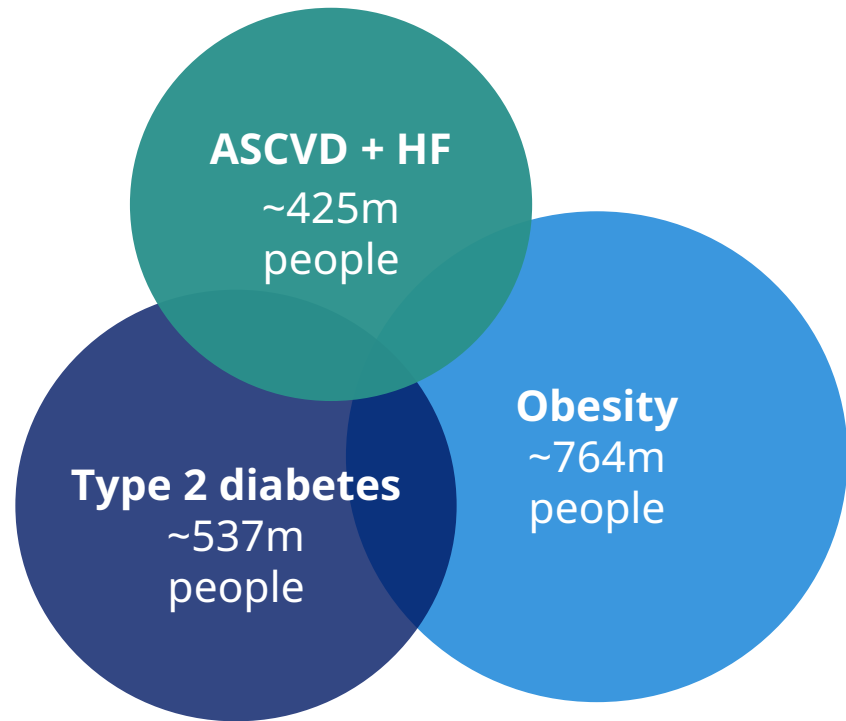
  

	Estimated patients	Diagnosis rate
<b>NASH</b>	~15-40 million <sup>1</sup>	~20% <sup>2</sup>
<b>CKD</b>	~200 million	~20%



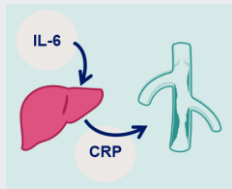

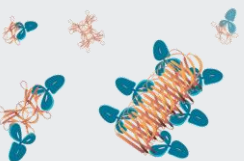
<sup>1</sup> Internal forecast comprising the USA, Europe and Japan; <sup>2</sup> Diagnosis rate is considered a major uncertainty to the forecast  
 CVD: Cardiovascular disease; NASH: Non-alcoholic Steatohepatitis; CKD: Chronic kidney disease; AD: Alzheimer's Disease  
 Sources: Alzheimer's Association report: 2020 Alzheimer's disease facts and figures, 2020 (16:391-460), Diabetes Care 2005 Jan; 28(1): 164-176; Abera SF et al. Global, Regional, and National Burden of Cardiovascular Diseases for 10 Causes, 1990 to 2015, 2017; Heart Disease and Stroke Statistics, American Heart Association, 2017; Williams CD et al. Prevalence of nonalcoholic fatty liver disease and nonalcoholic steatohepatitis among a largely middle-aged population utilizing ultrasound and liver biopsy, 2011; Addressing the global burden of chronic kidney disease through clinical and translational research, 2014

# Large patient overlaps between diabetes, obesity, and CVD have guided the focused approach in CVD

Population overlap between T2D, obesity and CVD



Focused approach in CVD

Atherosclerosis 	Heart failure 	
<p><b>Inflammation-driven pathogenesis</b></p>  <p>hsCRP as surrogate endpoint</p>	<p><b>Heart failure with preserved ejection fraction (HFpEF)</b></p>  <p>Improve outcomes</p>	<p><b>Transthyretin amyloid cardiomyopathy (ATTR-CM)</b></p>  <p>Amyloid-depletion through antibody-mediated phagocytosis</p>

T2D: Type 2 diabetes, CVD: Cardiovascular disease; ASCVD: Atherosclerotic cardiovascular disease; HF: Heart failure; ATTR-CM: Transthyretin Amyloid Cardiomyopathy; LDL-C: Low-density lipoprotein cholesterol; hsCRP: High-sensitivity C-reactive protein  
Sources: IDF Diabetes Atlas 2021, internal estimate based on European Cardiovascular Disease Statistics, 2017 edition, WHO obesity and overweight fact sheet, 9 June 2021

# Innovative late-stage CVD pipeline provides opportunities to make a difference for many patients

## Focus areas

Near-term
Leverage broader CV indications to establish presence with Cardiologists and build an adequate PCP footprint for entry of stand-alone CVD product
Medium-term
Utilise leading scientific and commercial capabilities to launch first CVD stand-alone product
Long-term
Expand pipeline with differentiated MoAs through leading discovery and translational capabilities

## Examples of unmet needs in CVD pipeline

Category	Broader indications		Stand-alone CVD
<b>Study</b> Current phase	<b>HFpEF</b> Phase 3 Sema 2.4mg	<b>PAD</b> Phase 3 Sema 1.0mg	<b>ATTR-CM</b> Phase 2 was initiated in 2022 NNC6019
<b>Global unmet need</b> (people)	~13m	~200m	No consensus (estimated 0.1-2.8 cases per 10,000 in EU)
<b>Potential differentiators</b>	1 <sup>st</sup> in class indication <sup>1</sup>	First and only for T2D	Reverse disease pathology
<b>Potential launch year</b>	2023/24	2023/24	2028

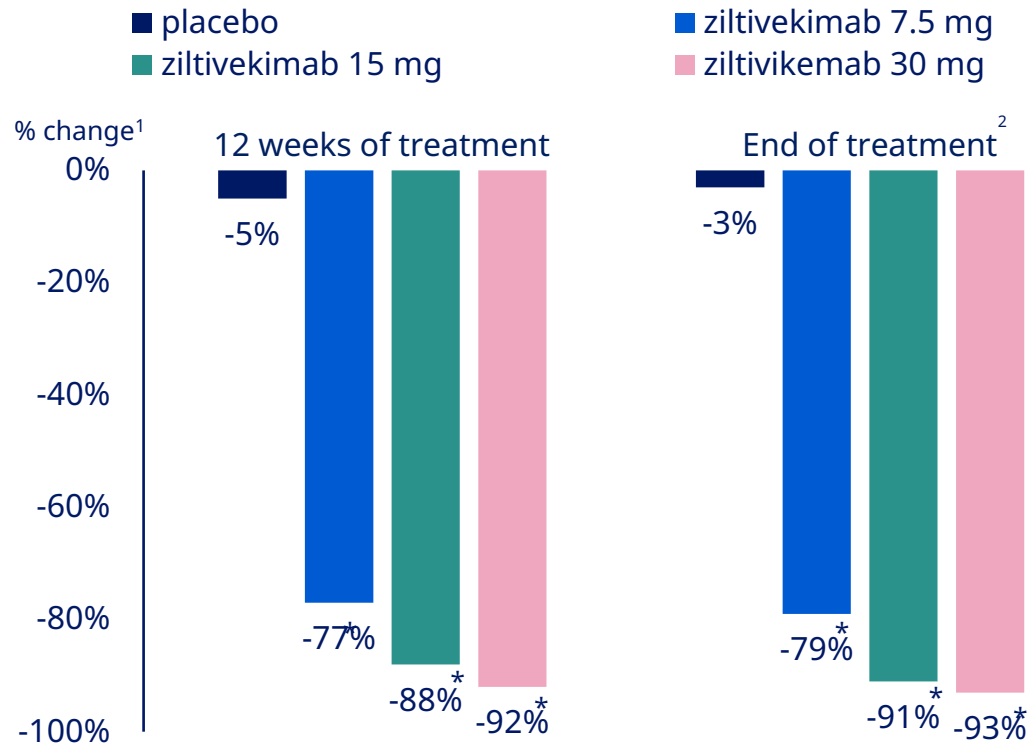
<sup>1</sup> Specifically for a functional outcomes trial in an obese patient population

PCP: Primary Care Physician; CV(D): Cardiovascular Disease; MoA: Mode of Action; HFpEF: Heart failure with preserved ejection fraction; PAD: Peripheral arterial disease; ATTR-CM: Transthyretin Amyloid Cardiomyopathy; T2D: Type 2 Diabetes

Sources: HFpEF: Savarese G, Lund LH. Global Public Health Burden of Heart Failure, 3 April 2017; PAD: Shu J, Santulli G. Update on peripheral artery disease: Epidemiology and evidence-based facts, 22 May 2018; ATTR-CM: Orphan Maintenance Assessment Report for tafamidis, EMA, 17 February 2020

# Ziltivekimab phase 2b RESCUE trial was successfully completed

In the RESCUE trial, zilti QM showed reduction in hsCRP at all dose levels



Zilti QM showed **reductions in inflammation biomarkers**<sup>3</sup>

Zilti QM appeared to have a **safe and well-tolerated profile**

**Addressing the residual risk** of CVD for more than 5 million patients with ASCVD, CKD, and inflammation<sup>4</sup>

The **phase 3 cardiovascular outcomes trial** was initiated as of Q3 2021

<sup>1</sup> Primary endpoint was the median percent change in hsCRP, \* Indicates statistical significance, p < .0001

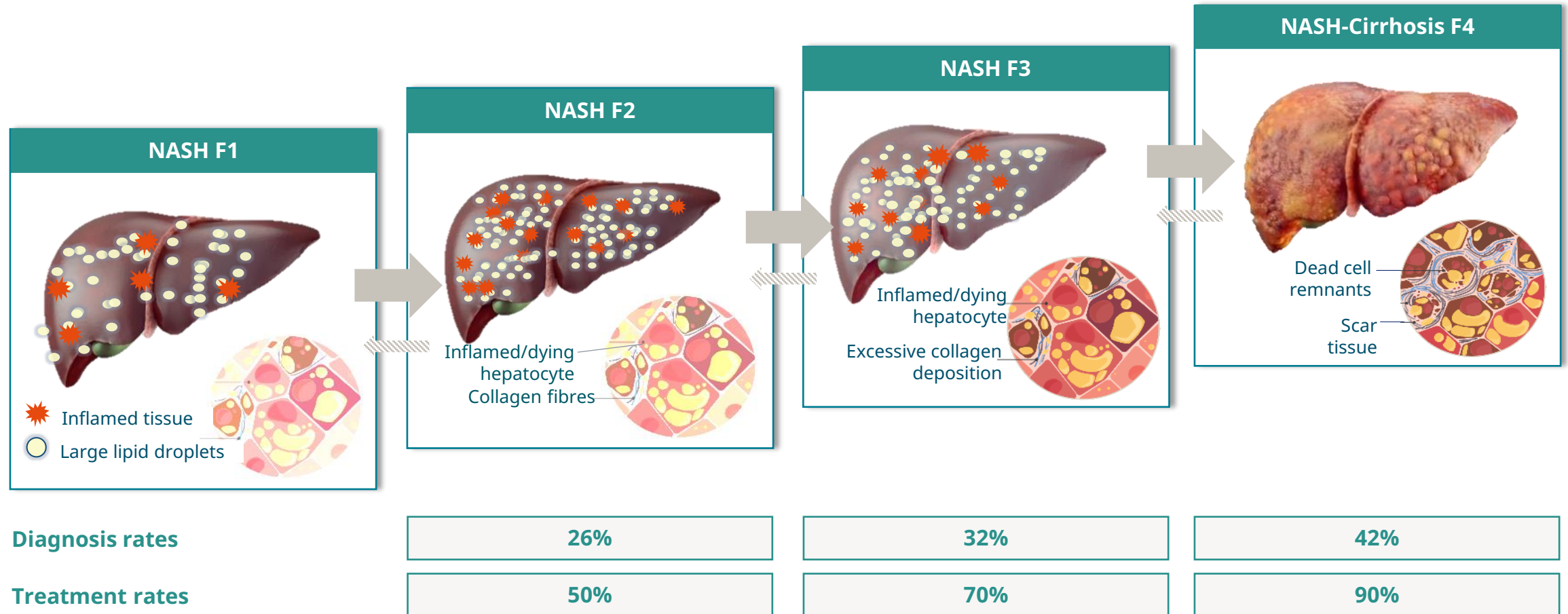
<sup>2</sup> End of treatment is defined as the average of values at week 23 and week 24

<sup>3</sup> Inflammation biomarkers include: Fibrinogen, serum amyloid A, haptoglobin and NTproBNP

<sup>4</sup> Inflammation is defined as c-reactive protein levels greater than 2

Zilti: Ziltivekimab; QM: Once-monthly; hsCRP: High-sensitivity c-reactive protein; CVD: Cardiovascular disease; ASCVD: Atherosclerotic cardiovascular disease; CKD: Chronic kidney disease

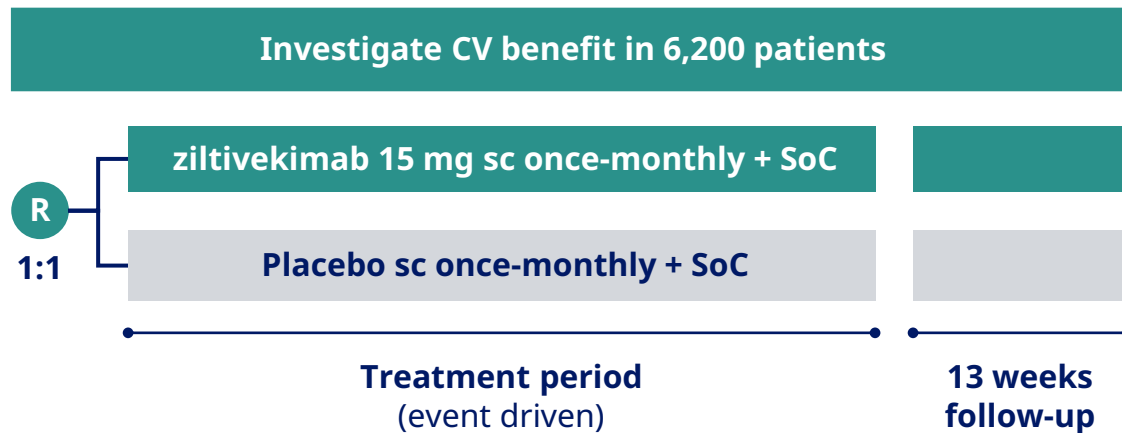
# NASH is a progressive disease with no existing treatment and low diagnosis rates today



Source: Novo Nordisk estimates

# ZEUS trial with ziltivekimab aims to validate the link between hsCRP and major adverse cardiovascular events

## Phase 3 CVOT trial ZEUS with ziltivekimab



### Objective

- To investigate the cardiovascular benefit of ziltivekimab in the treatment of patients with established ASCVD, CKD and systemic inflammation

### Primary endpoints

- Time to the first occurrence of 3-point MACE (CV death, non-fatal MI or non-fatal stroke)

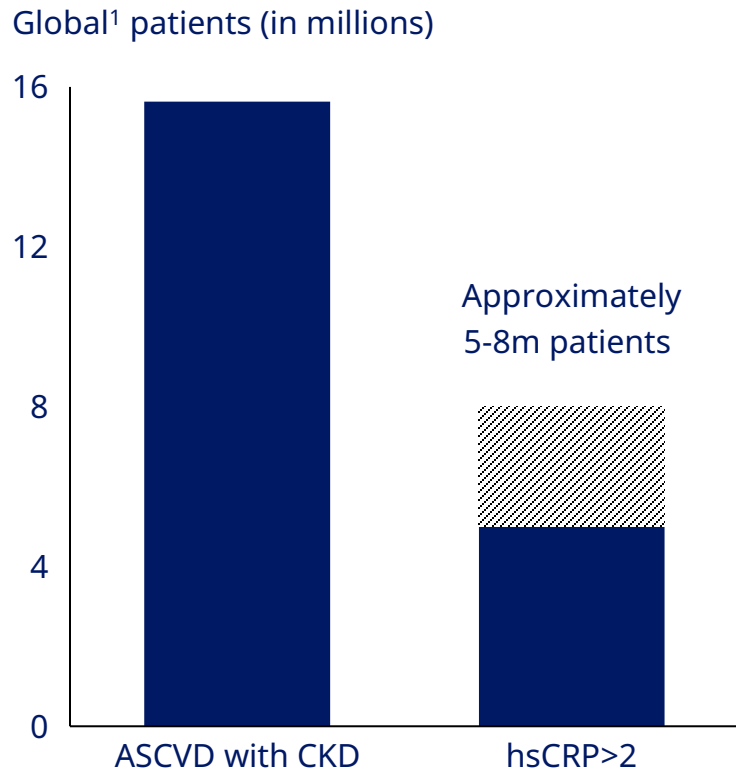
### Secondary endpoints

- Time to first occurrence of expanded MACE<sup>1</sup>
- Number of hospitalisations for HF or urgent HF visit
- Time to occurrence of all-cause mortality
- Time to first occurrence of a composite CKD endpoint

<sup>1</sup> MACE includes CV death, non-fatal MI or non-fatal stroke, Expanded MACE includes: (CV death, non-fatal MI, non-fatal stroke or hospitalisation for unstable angina pectoris requiring urgent coronary revascularisation)  
 hsCRP: High-sensitivity C-reactive protein; CVOT: Cardiovascular outcome trial; CV: Cardiovascular; sc: Subcutaneous; SoC: Standard of care; HF: Heart failure; CKD: Chronic kidney disease  
 Source: Ridker PM, et al., IL-6 inhibition with ziltivekimab in patients at high atherosclerotic risk (RESCUE): a double-blind, randomised, placebo-controlled, phase 2 trial, 17 May 2021

# Ziltivekimab aspires to address an unmet need in more than 5 million people

**Ziltivekimab aspires to reduce MACE in people with ASCVD and CKD**



## Critical success factors to commercialise ziltivekimab

### Market building

**Targeted HCP outreach and relationship building**

**Successful payer engagement**

**Integrated evidence generation**

### Focus areas

- Increase presence with key prescriber base being cardiologists and PCPs
- Enhance awareness of inflammatory burden in CVD with KOLs and HCP associations
- Utilise ZEUS read-out to quantify anti-inflammatory clinical benefit in ASCVD patients with CKD vs Standard of Care
- Understand hsCRP and inflammation, epidemiology of disease and socio-economic burden of disease

### Investment levels



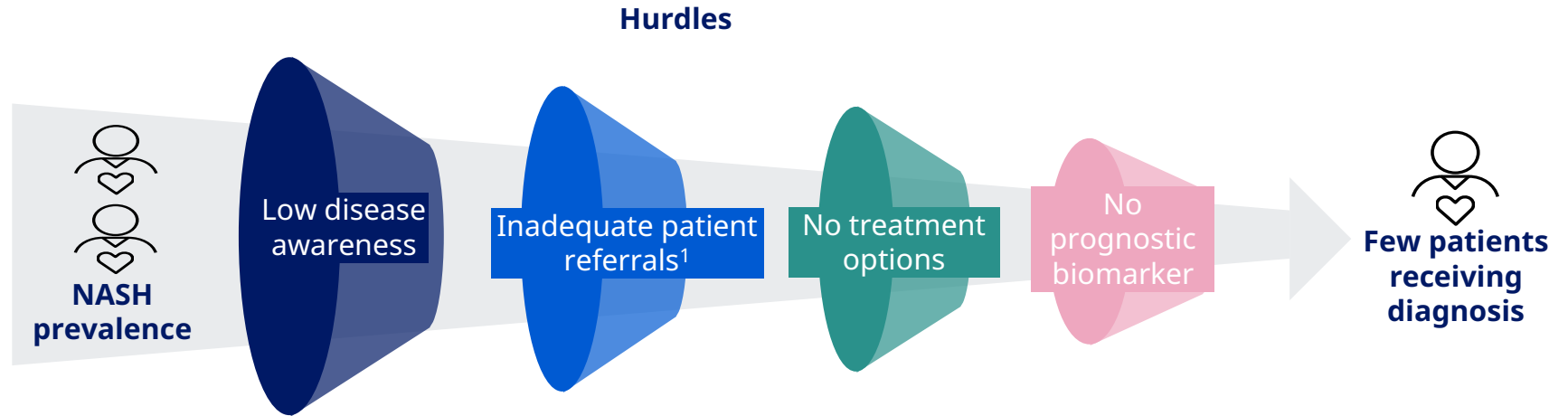
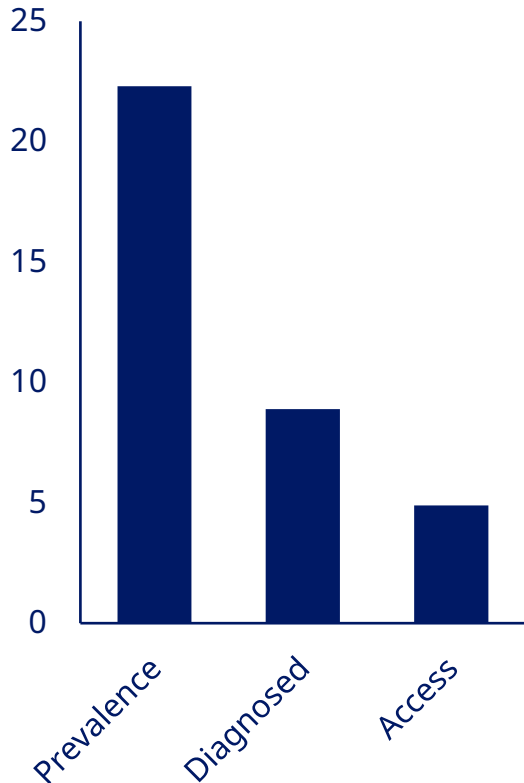
○ Low ● High

<sup>1</sup> Includes US, EU5 (Germany, France, Spain, Italy, United Kingdom) and Japan  
MACE or major adverse cardiovascular events includes CV death, non-fatal MI or non-fatal stroke; ASCVD: Atherosclerotic cardiovascular disease; CKD: Chronic kidney disease; HCP: Healthcare professional; PCP: Primary care physician  
KOL: Key opinion leader; hsCRP: High-sensitivity C-reactive protein



# NASH patient journey underscores key barriers to overcome for Novo Nordisk to be successful

~22 million people are expected to live with NASH F2-F4c by 2030



## Market preparation priorities

<p><b>Build strong presence</b> ●</p> <ul style="list-style-type: none"> <li>• Create urgency to treat in NASH</li> <li>• Build strong speciality-referral process</li> <li>• Engage Endos, Hepas and PCPs</li> </ul>	<p><b>Increase diagnosis rate</b> ◐</p> <ul style="list-style-type: none"> <li>• Momentum towards NITs in clinical practice and guidelines</li> <li>• NITs for diagnosis, screening and monitoring</li> </ul>	<p><b>Evidence generation</b> ◐</p> <ul style="list-style-type: none"> <li>• Build understanding of importance of addressing underlying cause of disease</li> <li>• Stop clinical progression amongst physicians and payers</li> </ul>
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● Indicates expected investment level

NASH: Non-alcoholic steatohepatitis; Endos: endocrinologist; PCP: primary care physician; NIT: Non-invasive tests; <sup>1</sup>Referrals and identification; Hepas: hepatologists; F: Fibrosis stage  
 Source: Estes C, Modeling the epidemic of nonalcoholic fatty liver disease demonstrates an exponential increase in burden of disease, Hepatology, 2018

# Novo Nordisk is supporting use of non-invasive tests for NASH diagnosis

## Development and adoption of non-invasive tests (NITs)



**Guidelines:** NITs represented in guidelines

**Practitioners:** ~80% of HCPs perform NASH diagnostics with use of various NITs, while biopsies are seldomly used

**NIT development:** Several available NITs in clinical practice. ELF test is first prognostic tool to be granted FDA *De Novo* marketing authorisation

**Pharma companies:** Embedding validation of NITs in clinical trials

## Novo Nordisk activities supporting non-invasive tests in NASH diagnosis

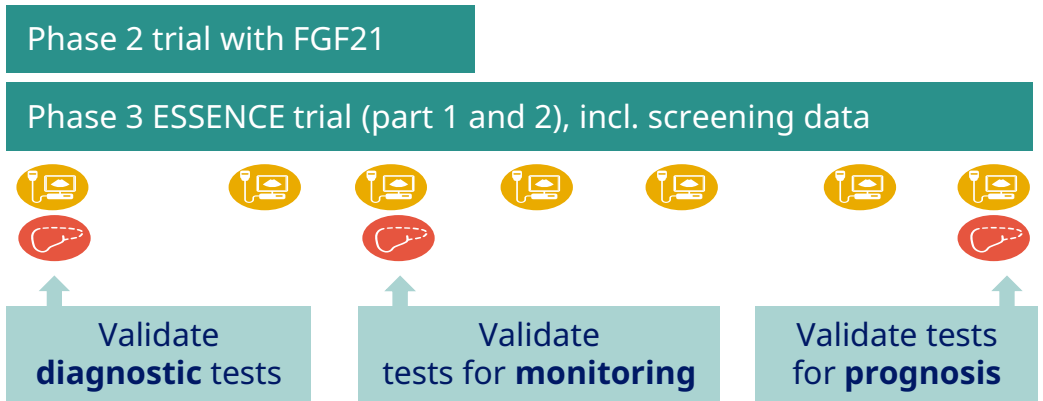
Real world

- Linking biomarkers and liver histology to outcomes
- Disease understanding

External

- Consortia
- Collaborations with academia and other healthcare companies

NN Development

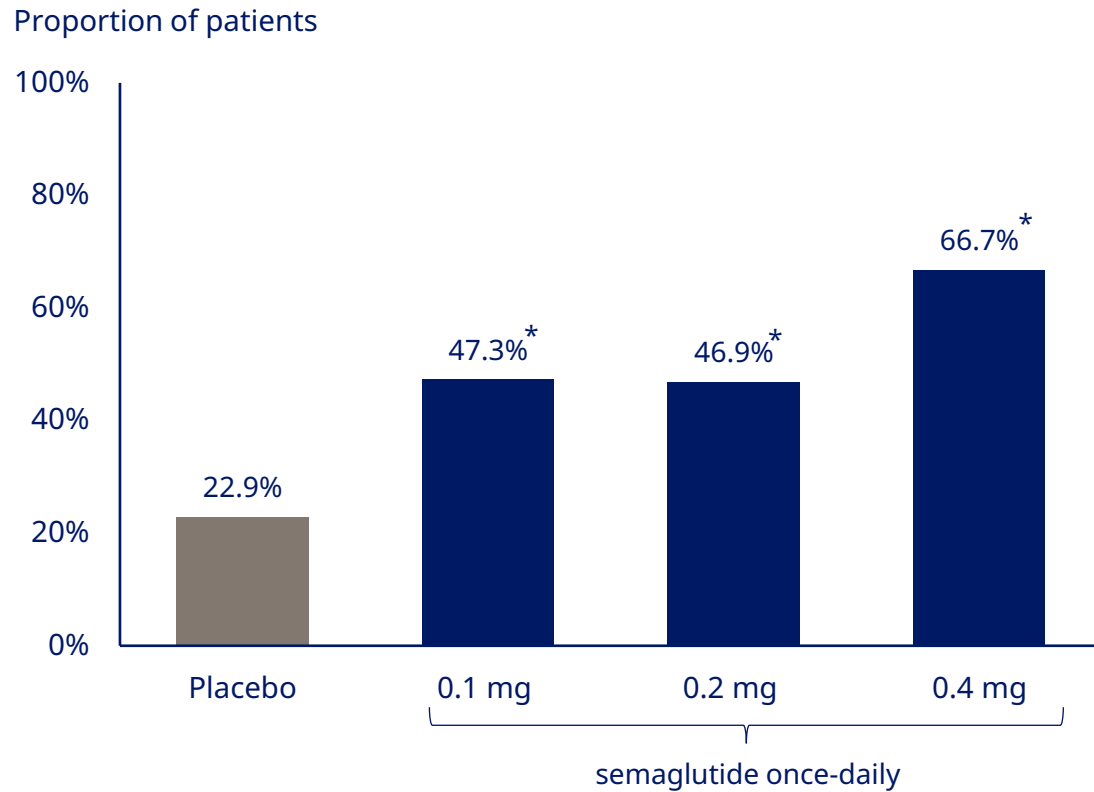


Note: FDA De Novo provides a marketing pathway to classify novel medical devices for which general controls alone, or general and special controls, provide reasonable assurance of safety and effectiveness for the intended use, but for which there is no legally marketed predicate device.

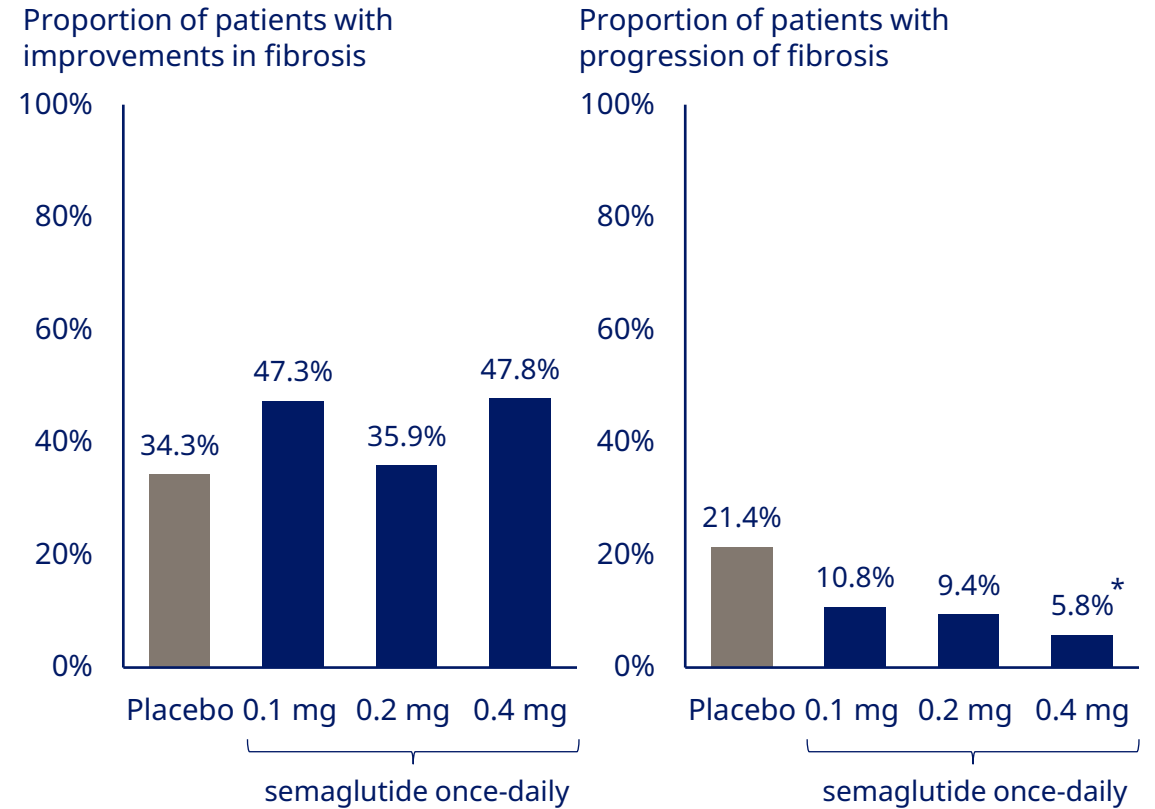
NITs: Non-invasive tests; NASH: Non-alcoholic hepatitis; HCPs: Healthcare professionals; FDA: the US Food and Drug Agency; NN: Novo Nordisk; ELF: Enhanced liver fibrosis

# In phase 2, semaglutide showed significant improvements in NASH resolution

**Semaglutide showed resolution of NASH with no worsening of fibrosis versus placebo in the phase 2 trial<sup>1</sup>**



**Semaglutide showed numerical improvements in fibrosis and fewer patients had progression of fibrosis vs placebo in phase 2 trial<sup>1</sup>**



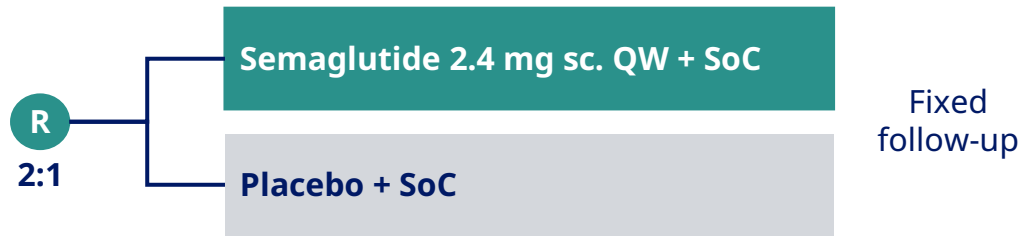
Note: \*statistically significant at 72 weeks (p<0.05 vs placebo).<sup>1</sup>Based on a complete case analysis, using people with an evaluable biopsy at end of trial. Analysis included patients with fibrosis stage 1, 2, or 3 at baseline. Data is from the semaglutide in NASH phase 2 trial.  
 NASH: non-alcoholic steatohepatitis

# Phase 3a trial ESSENCE with semaglutide 2.4 mg for the treatment of NASH was initiated in Q1 2021

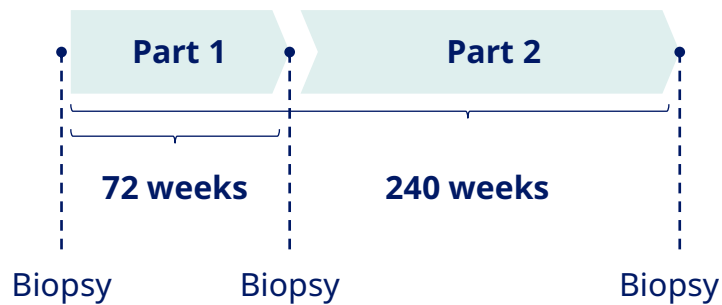
## The phase 3a ESSENCE trial in NASH

### ESSENCE trial | NASH F2-F3 patients

N = 1,200



### Structure



### Primary objectives and endpoints for Part 1 and 2

**Part 1** | Improves liver histology vs placebo

#### Two binary histology endpoints at week 72:

- Resolution of NASH and no worsening of liver fibrosis
- Improvement in liver fibrosis and no worsening of NASH

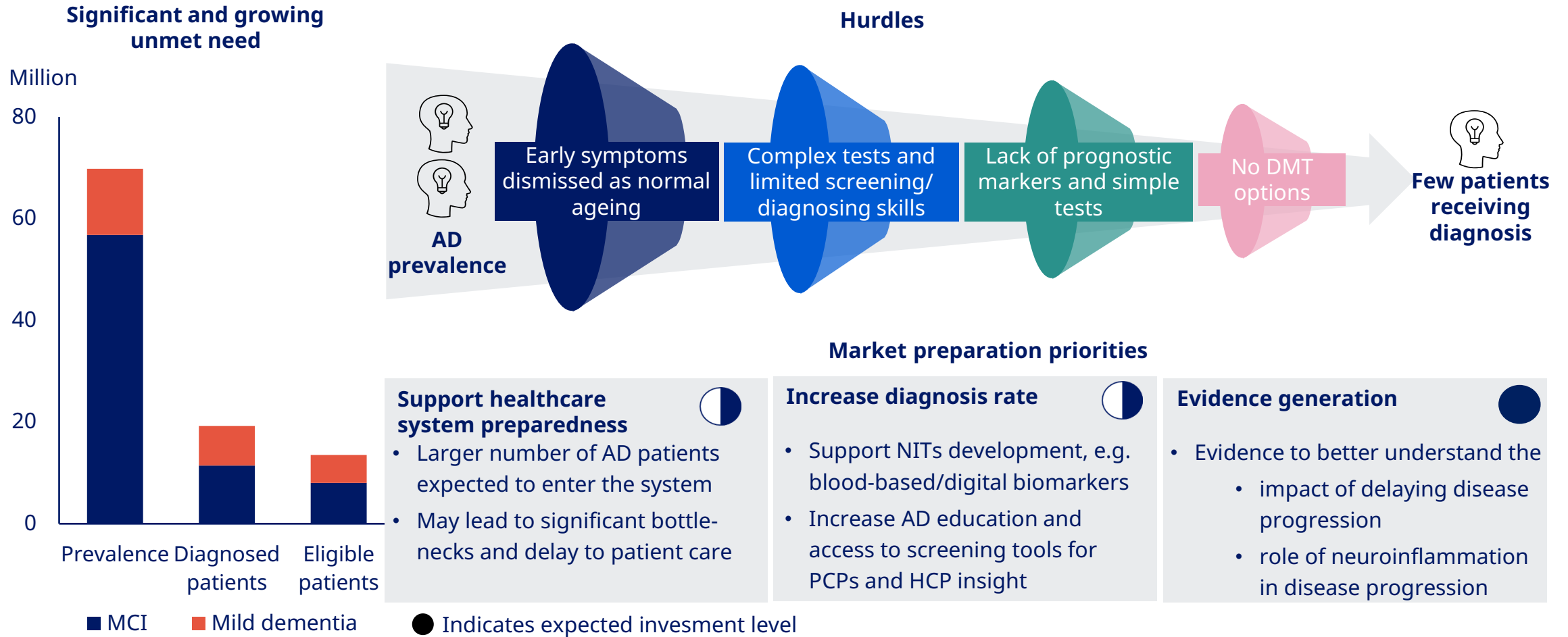
**Part 2** | Lowers the risk of liver-related clinical events vs placebo

#### Time to first outcome (composite endpoints) at week 240:

- Histological progression to cirrhosis
- Death (all cause)
- Liver-induced MELD score  $\geq 15$
- Liver transplant
- Hepatic decompensation events

**Regulatory submission is expected to be based on part 1 of the trial combined with the results of the already completed phase 2 trial**

# AD patient journey is complex and underscores key barriers to overcome for Novo Nordisk to be successful



Note: MCI and Mild dementia in the graph are both *due to AD*.

AD: Alzheimer's disease; QD: Once-daily; MCI: mild cognitive impairment; DMT: Disease-modifying treatment; PCP: primary care physicians; NITs: Non-invasive diagnostics; HCP: Healthcare professional

Source: Alzheimer's Association report: 2020 Alzheimer's disease facts and figures, 2020 (16:391-460)

# Entering phase 3 development of semaglutide in Alzheimer's disease was based on a number of data points



## Real world evidence trials

Four RWE studies show reduced risk of dementia or AD with GLP-1

### Danish registry<sup>1</sup>

- **11%** lower risk of dementia per year of GLP-1 exposure

### TRUVEN claims database<sup>1</sup>

- **31%** lower risk of dementia after >2 years of GLP-1 exposure

### Danish registry<sup>2</sup>

- **42%** lower odds of dementia after GLP-1 exposure

### FAERS (FDA database)<sup>3</sup>

- **64%** lower odds of AD after liraglutide exposure



## Randomised controlled trials

**53%** lower risk of dementia diagnosis with liraglutide/semaglutide in NN's CVOTs in T2D<sup>4</sup>

**Less decline** in cerebral glucose metabolism (FDG-PET) with liraglutide in AD<sup>5</sup>

Reduced incidence of **major adverse CV events** in T2D with semaglutide incl. stroke<sup>6</sup>

Systemic anti-inflammatory effects with semaglutide<sup>7,8</sup>

Short-term **memory improvement** with liraglutide in people with obesity<sup>9</sup>

**Reduced cognitive decline** with dulaglutide in patients with T2D<sup>10</sup>



## Pre-clinical studies

**Improved memory function** with GLP-1<sup>11</sup> incl. semaglutide<sup>12</sup>

**Reduced phospho-tau** accumulation<sup>13</sup>

**Reduced neuroinflammation** with GLP-1<sup>14,15</sup> incl. semaglutide<sup>16</sup>

**Reduced atherosclerosis** with liraglutide and semaglutide<sup>17</sup>

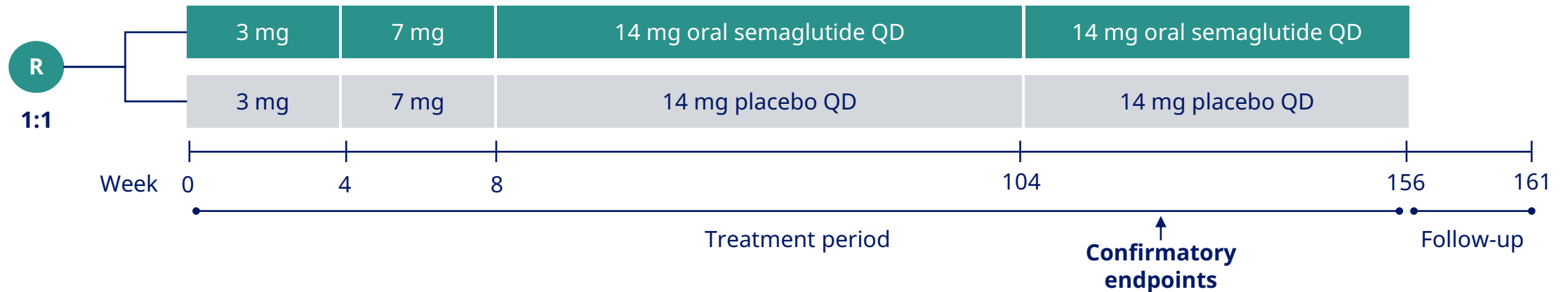
Systemic **anti-inflammatory** effects with semaglutide<sup>17</sup>

AD: Alzheimer's disease; CI: confidence interval; RWE: Real world evidence

<sup>1</sup>NN data on file, Danish register: Dementia cases based on diagnosis (ICD10) or treatment (anticholinesterases, memantine) codes; TRUVEN: Dementia cases based on SNOMED ids for all diagnoses (ICD-10) or treatment (anticholinesterases, memantine); <sup>2</sup>Wium-Andersen IK et al. Eur J Endocrinol. 2019;181(5):499-507; <sup>3</sup>Akimoto H et al. Am J Alzheimers Dis Other Demen. 2020;35:1-11; <sup>4</sup>Ballard et al. Presented online at the Alzheimer's Association International Conference (AAIC), 27-31 July 2020; <sup>5</sup>Gejl M et al. Front Aging Neurosci 2016;8:108; <sup>6</sup>Husain M et al. Diabetes Obes Metab 2020;22:442-451; <sup>7</sup>Aroda VR et al. Diabetes Care 2019;42:1724-1732; <sup>8</sup>Rodbard HW et al. Diabetes Care 2019;42:2272-2281; <sup>9</sup>Vadini F et al. Int J Obes (Lond) 2020;44:1254-1263; <sup>10</sup>Cukierman-Yaffe T et al. Lancet Neurol 2020;19:582-590 <sup>11</sup>Hansen HH et al. J Alzheimers Dis 2015;46:877-888; <sup>12</sup>Preliminary data in NN ongoing pre-clinical studies; <sup>13</sup>Hansen HH et al. Brain Res 2016;1634:158-170; <sup>14</sup>Brundin L et al. Nature Med 2018;24:900-902; <sup>15</sup>Yun SP et al. Nature Med 2018;24:931-938; <sup>16</sup>Secher A et al. Oral presentation at Virtual Alzheimer's Disease/Parkinson's Disease International Conference, 9-14 March 2021; <sup>17</sup>Rakipovski G et al. JACC Basic Transl Sci 2018;3:844-857

# Evoke and evoke+ trials are ongoing with expected completion in 2025

evoke and evoke+ trials have been initiated with 1,840 patients in each trial with a total of 3,680 patients

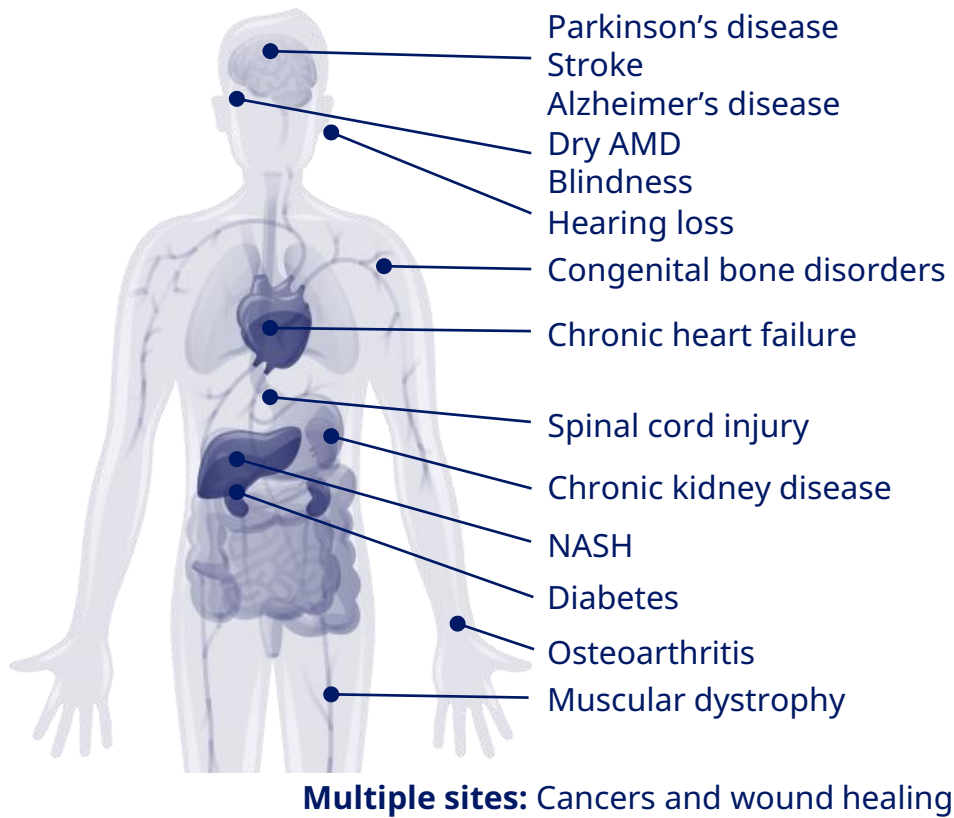


Objective	Primary endpoint	Inclusion criteria
To confirm superiority of oral semaglutide vs placebo on the change in cognition and function in people with early Alzheimer’s disease	Change in the Clinical Dementia Rating – Sum of Boxes (CDR-SB) score from baseline to end of 104 weeks of treatment	<ul style="list-style-type: none"> <li>• Early Alzheimer’s disease (mild cognitive impairment or mild dementia)</li> <li>• Mini-Mental State Examination (MMSE) ≥ 22/30</li> <li>• Age between 55-85 years</li> <li>• evoke+ has at least 20% with small vessel pathology</li> </ul>






AD: Alzheimer’s disease; QD: Once-daily; MCI: mild cognitive impairment; QD: once-daily.  
 Note: CDR-SB ratings are utilising in six domains are summed to provide a clinical measure = Sum of Boxes. These are: memory, orientation, judgment and problem solving, community affairs, home and hobbies, personal care.  
 CDR-SB Scores range from 0 to 18 with higher scores representing greater impairment

# There is broad potential for cell therapies and Novo Nordisk has capabilities to explore the potential

## Broad potential for clinical use of cell therapies



## Maturing the platform to enable development of competitive cell therapies

Focus area	Novo Nordisk capabilities
 Pluripotent stem cell	In-depth know-how on embryonic pluripotent stem cells
 Bank of several undifferentiated stem cells	Exploitation of quality controlled stem cells
 Differentiated to specific cell types	IP-protected protocols for differentiation
 Upscaling, manufacturing and delivery/devices	GMP-grade cell manufacturing and development of cell delivery devices <sup>1</sup>
 Clinical development and regulatory affairs	Early interactions with regulators Clinical trial experience

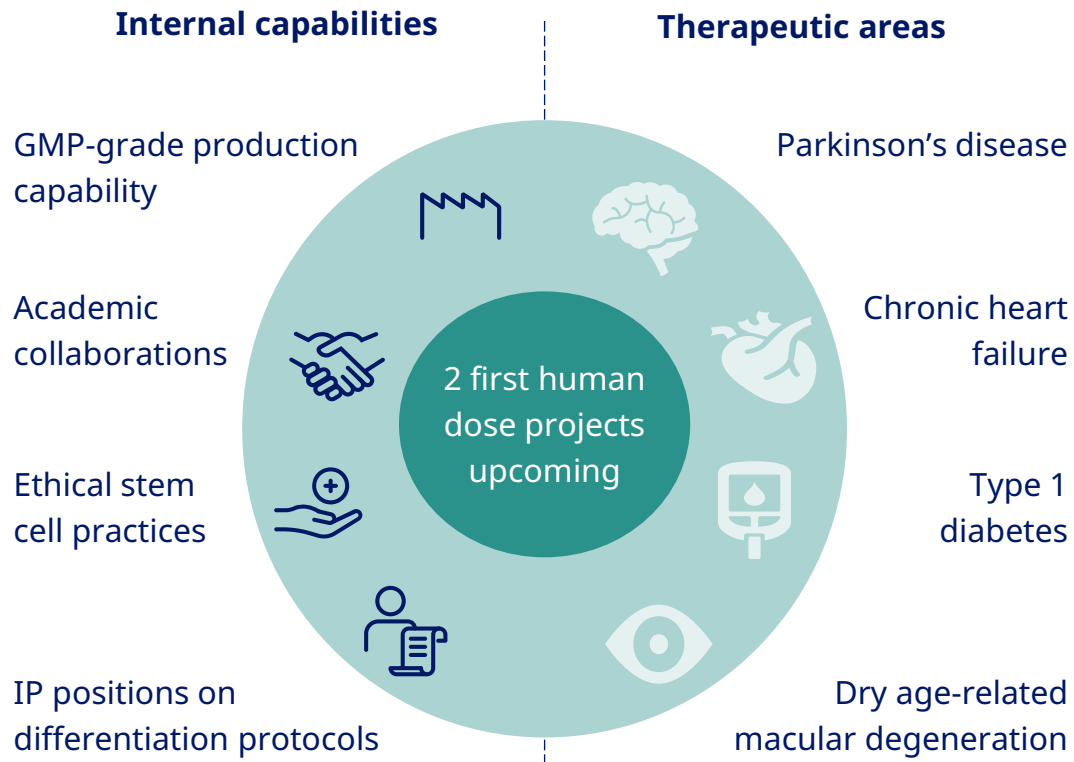
<sup>1</sup>In collaboration with academia and industrial partners  
 Dry AMD: Dry age-related macular degeneration; NASH: Non-alcoholic steatohepatitis; IP: Intellectual property; GMP: Good manufacturing practices



# Potential first human dose with cell therapy in collaboration with Heartseed and others

**Utilise internal capabilities and disease understanding for stem cell development**

**Accelerate innovation through partnerships**



- iPSC derived cardiomyocyte spheroids for direct injection into heart



- hESC derived dopaminergic progenitor neurons for placing into the brain
- Parkinson's disease



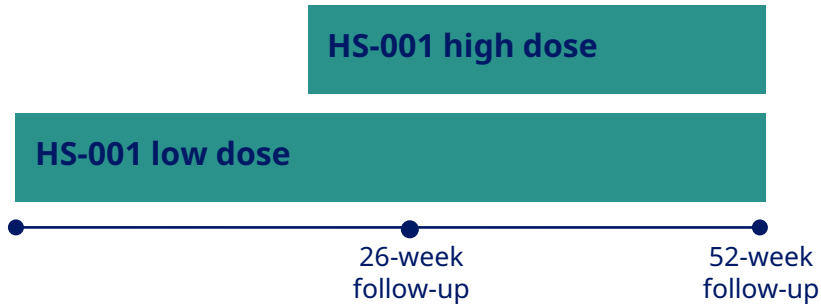
- Novo Nordisk scientists embedded at UCSF lab
- Process development, manufacturing, QA/QC, facilities and operations at Fremont site

# First efforts to combine Novo Nordisk and partner competencies in cell therapies start with heart failure and Parkinson's disease

## Heartseed: Phase 1/2 trial in patients with severe heart failure

### 10 patients with

- Resting LVEF  $\leq 40\%$
- NYHA cardiac function classification grade  $\geq II$

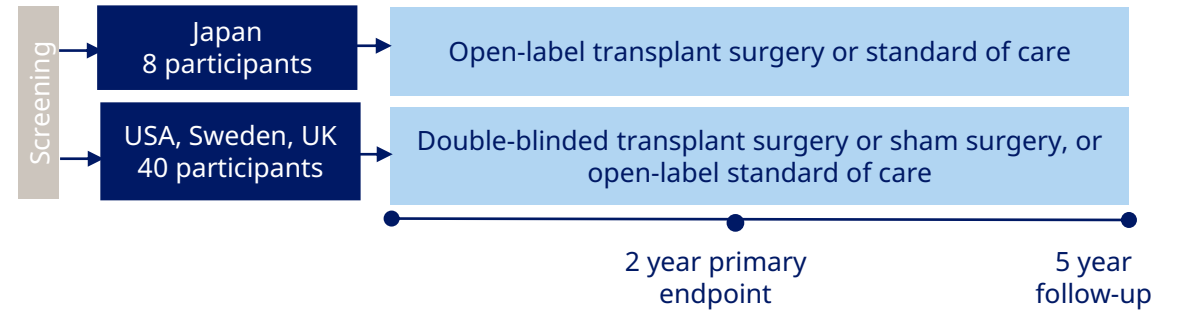


### Objectives to evaluate:

- Safety of cardiomyocytes spheroids
- Efficacy and dose-response
- Feasibility of transplantation procedures

A **follow-up phase 2 trial** is planned to investigate further dose increase and catheter delivery as route of administration

## TRANSCEND 1 and 2 trials to evaluate stem cells impact on quality of life for people with moderate Parkinson's disease



**TRANSCEND 1:** observational study of patients with moderate PD aiming at identifying potential candidates to the interventional TRANSCEND 2 trial

**TRANSCEND 2:** in combination with **Lund University** trial, a phase 1/2 trial investigating the treatment of Parkinson's disease

**Primary endpoint:** Number of treatment-emergent adverse events 2 years after dosing

# International Operations

International Operations	110
EMEA	115
Region China	120
Rest of World	125



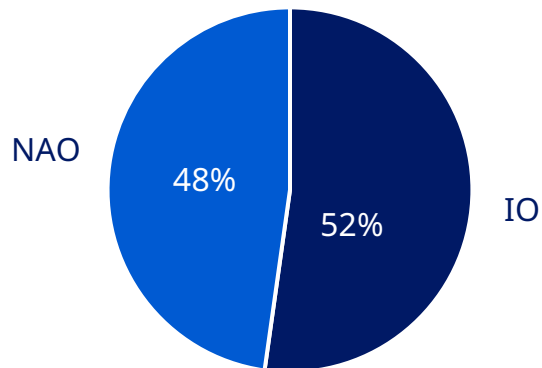
# Growth momentum has increased driven by demographics and utilisation of full product portfolio

International Operations is diverse and covers 190 markets

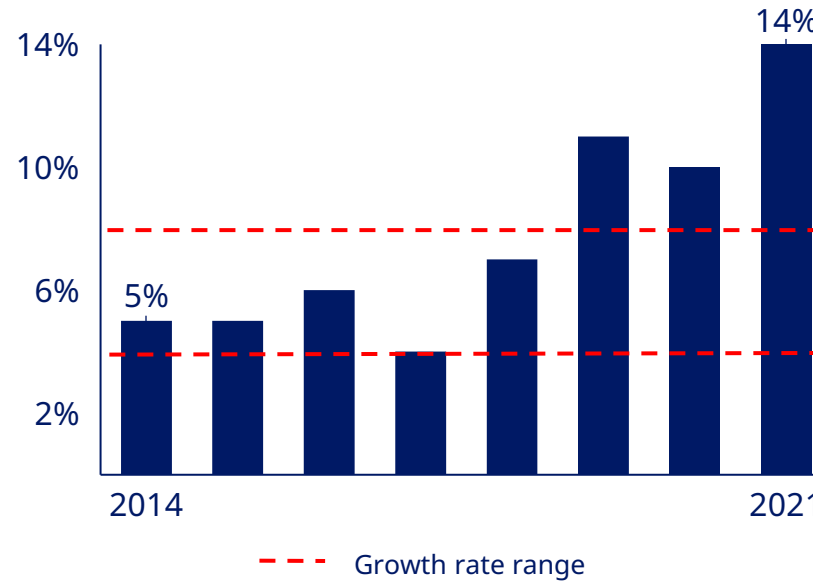
>487m live with diabetes

>600m live with obesity

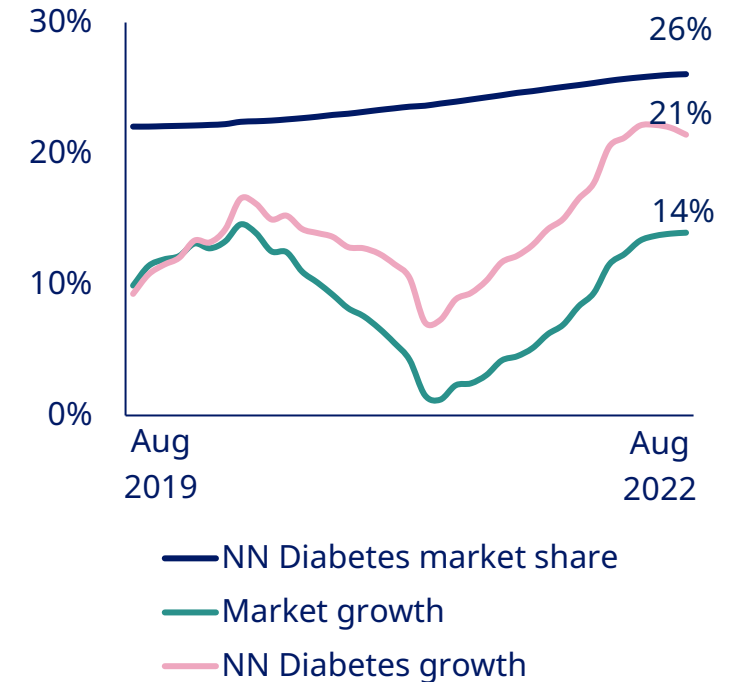
IO's share of revenue FY 2021



Historic growth has been in the range of 4-8%



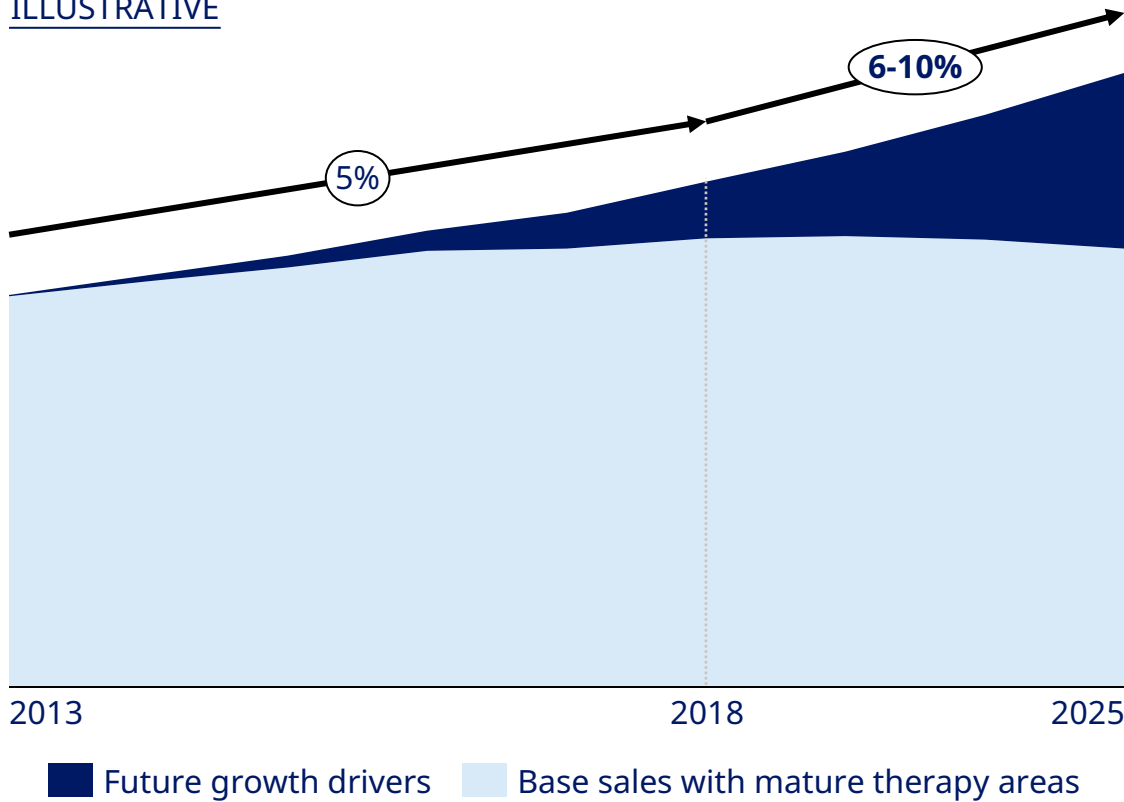
Growth momentum in IO



# IO remains committed to its strategic aspiration of 6-10% growth driven by securing the base and three future growth enablers

Growing double digits every year since 2019

ILLUSTRATIVE



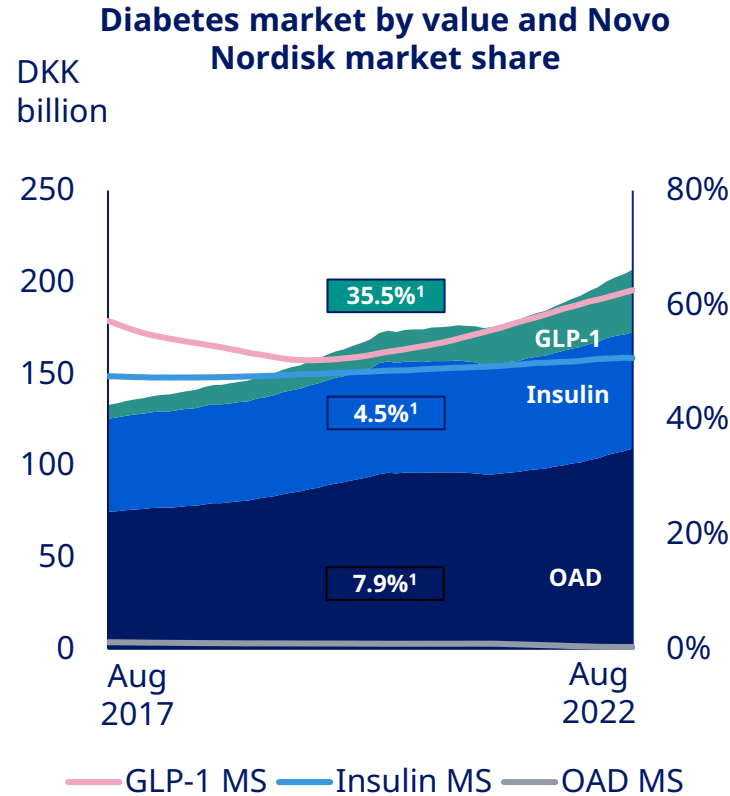
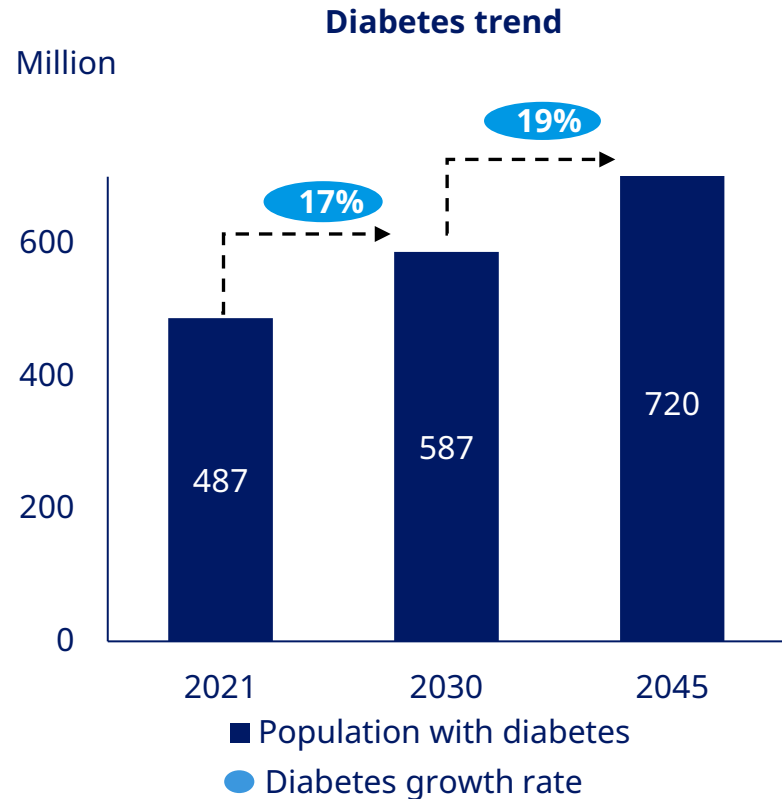
Driving market growth via a market-fit approach

Driving GLP-1 growth	<b>OZEMPIC</b> <sup>®</sup> semaglutide injection	<b>RYBELSUS</b> <sup>®</sup> semaglutide tablets
Expand Obesity care	<i>Saxenda</i> <sup>®</sup> liraglutide injection	ONCE-WEEKLY <i>wegovy</i> <sup>®</sup> semaglutide injection 2.4 mg
Expand insulin sales and patient base	<b>TRESIBA</b> <sup>®</sup> insulin degludec [rDNA origin] injection	<b>RYZODEG</b> <sup>®</sup> 70% insulin degludec and 30% insulin aspart [rDNA origin] injection

Prepare for Icodec

Note: All growth rates in Constant Exchange Rates (CER) unless otherwise specified.

# International Operations at a glance



### Novo Nordisk reported sales

First nine months of 2022	Sales (mDKK)	Growth <sup>2</sup>
<b>Total GLP-1<sup>3</sup></b>	<b>18,886</b>	<b>55%</b>
Long-acting insulin <sup>4</sup>	8,717	0%
Premix insulin <sup>5</sup>	7,855	-9%
Fast-acting insulin <sup>6</sup>	8,291	-3%
Human insulin	4,967	-20%
<b>Total insulin</b>	<b>29,830</b>	<b>-7%</b>
Other Diabetes care <sup>7</sup>	1,913	-12%
<b>Diabetes care</b>	<b>50,629</b>	<b>9%</b>
Obesity care <sup>8</sup>	4,141	73%
<b>Diabetes &amp; Obesity care</b>	<b>54,770</b>	<b>13%</b>
Rare disease <sup>9</sup>	9,645	4%
<b>Total</b>	<b>64,415</b>	<b>11%</b>

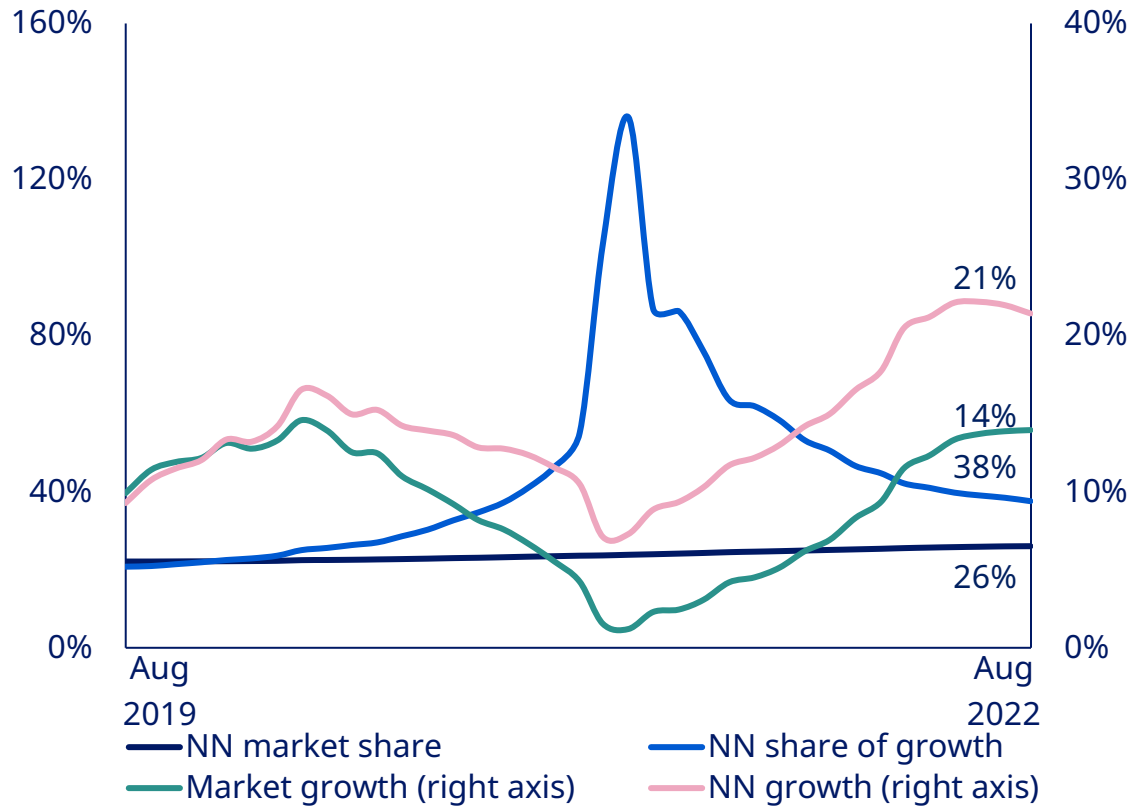
Diabetes trend estimates based on the following International Diabetes Federation defined regions: Africa, Europe, Middle East and North Africa, South and Central America, South East Asia and Western Pacific; Source: International Diabetes Federation: Diabetes Atlas 10<sup>th</sup> Edition 2021

<sup>1</sup> CAGR calculated for 5-year period; Competitor insulin value market shares, as of Aug 2022: Novo Nordisk 50%, Sanofi 27% and Eli Lilly 14%; Competitor GLP-1 value market shares, as of Aug 2022: Novo Nordisk 60%, Eli Lilly 37% and AstraZeneca 2%; OAD: Oral anti-diabetic; MS: Market share; Source: IQVIA MAT, Aug 2022 value figures

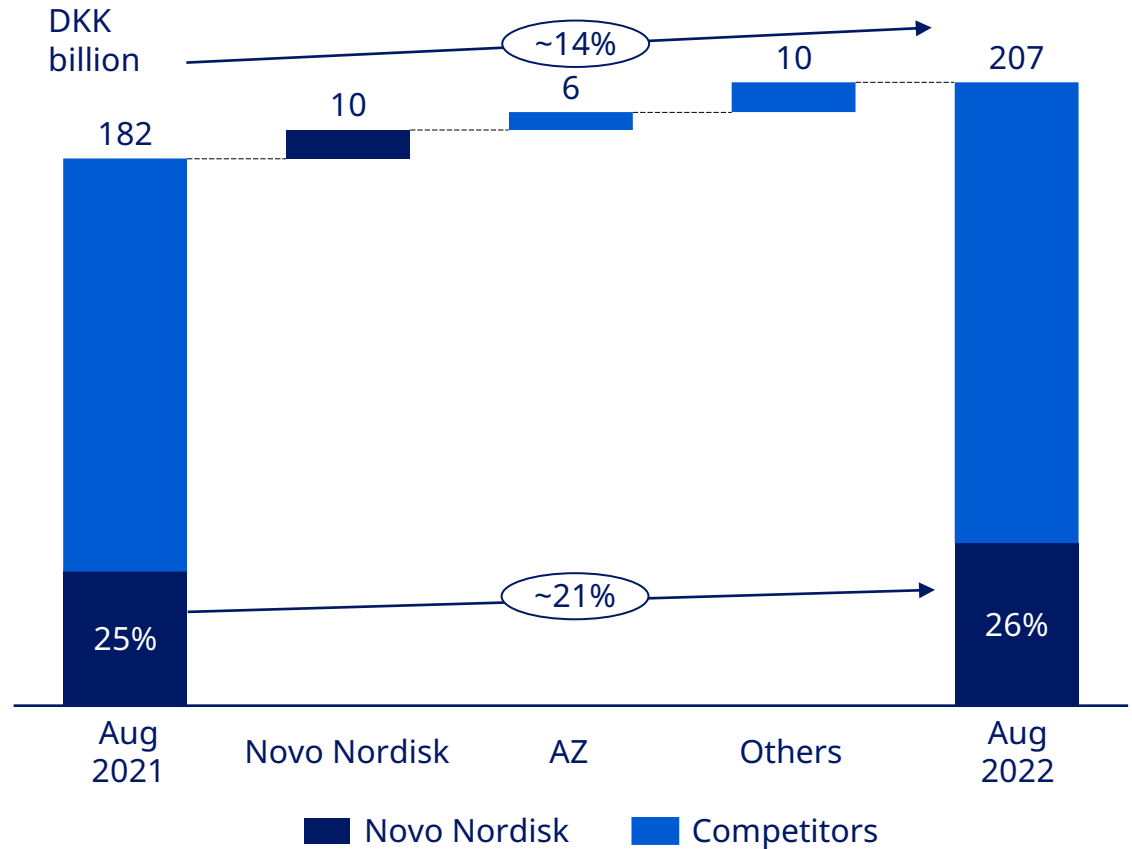
<sup>2</sup> At Constant exchange rates; <sup>3</sup> Comprises Victoza®, Ozempic®, and Rybelsus®; <sup>4</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>5</sup> Comprises Ryzodeg® and NovoMix®; <sup>6</sup> Comprises Fiasp® and NovoRapid®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Obesity care comprises Saxenda® and Wegovy®; <sup>9</sup> Comprises primarily NovoSeven®, NovoEight®, NovoThirteen®, Refixia®, Esperoct®, Norditropin®, Vagifem® and Activelle®

# Diabetes market share and market growth in International Operations

Diabetes market growth and Novo Nordisk market share

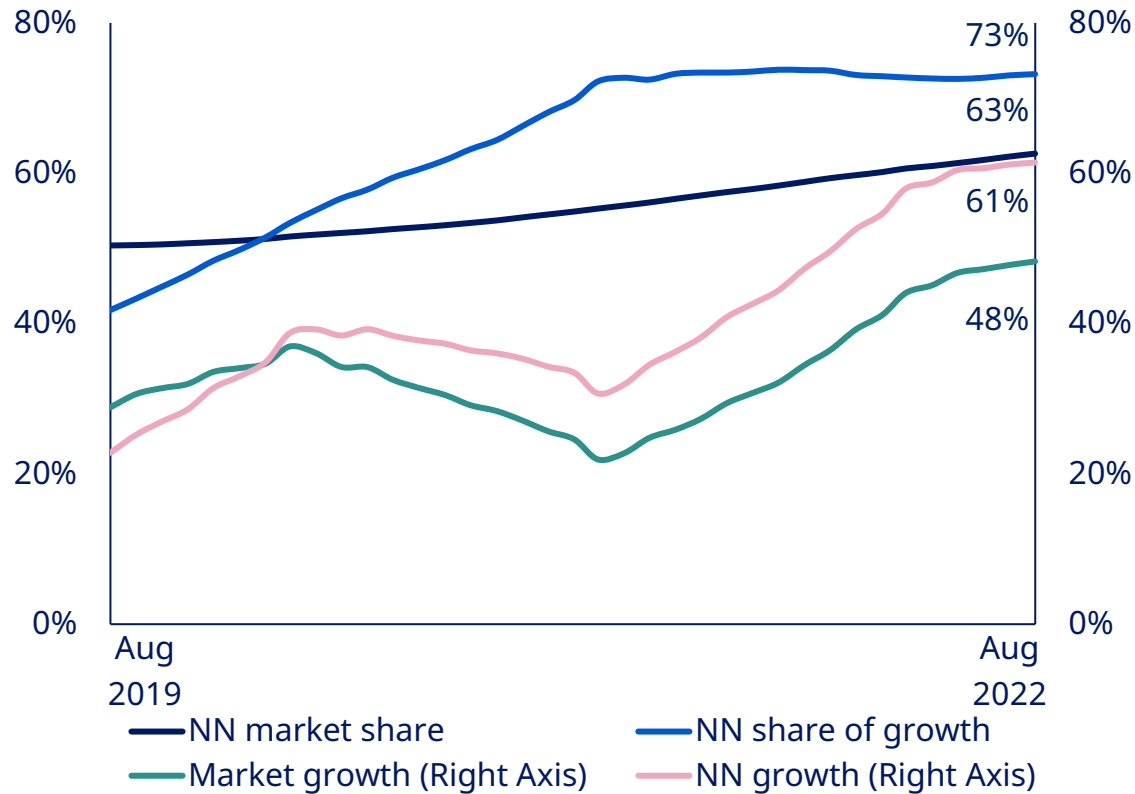


Diabetes market size and growth

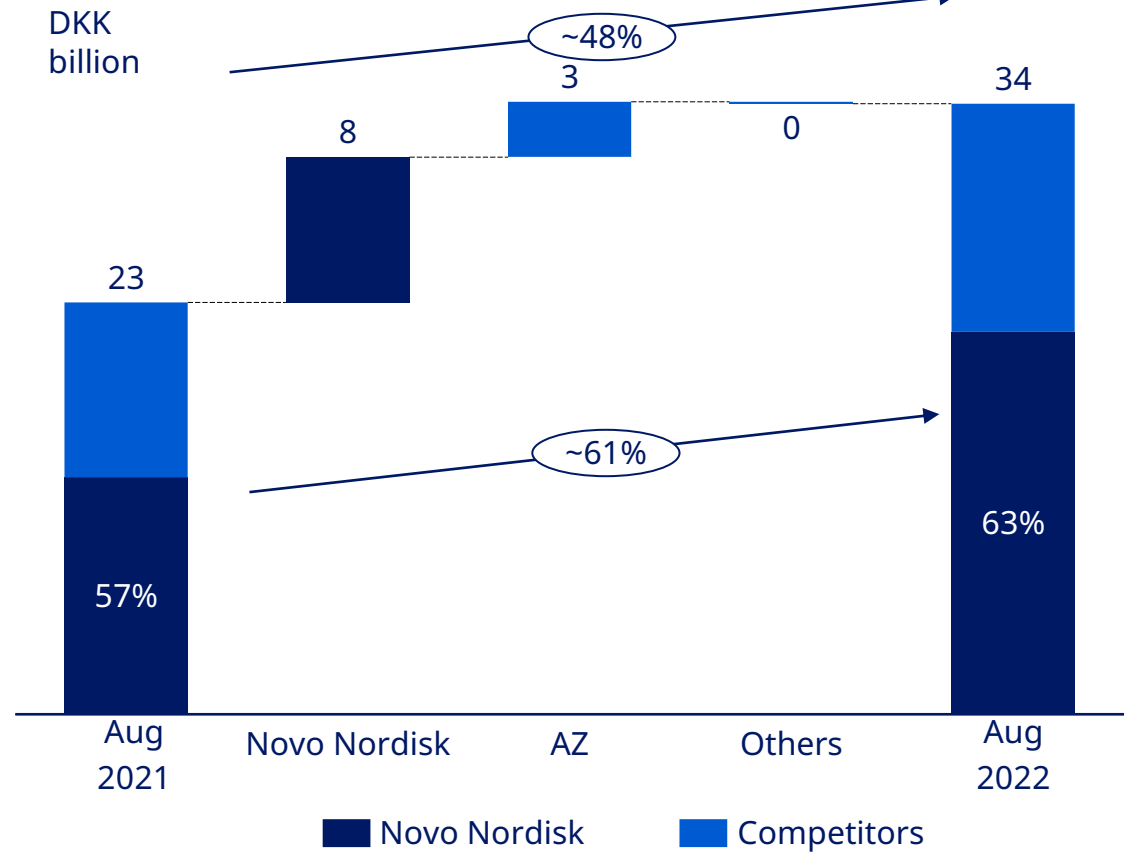


# GLP-1 market share and market growth

GLP-1 market growth and Novo Nordisk market share



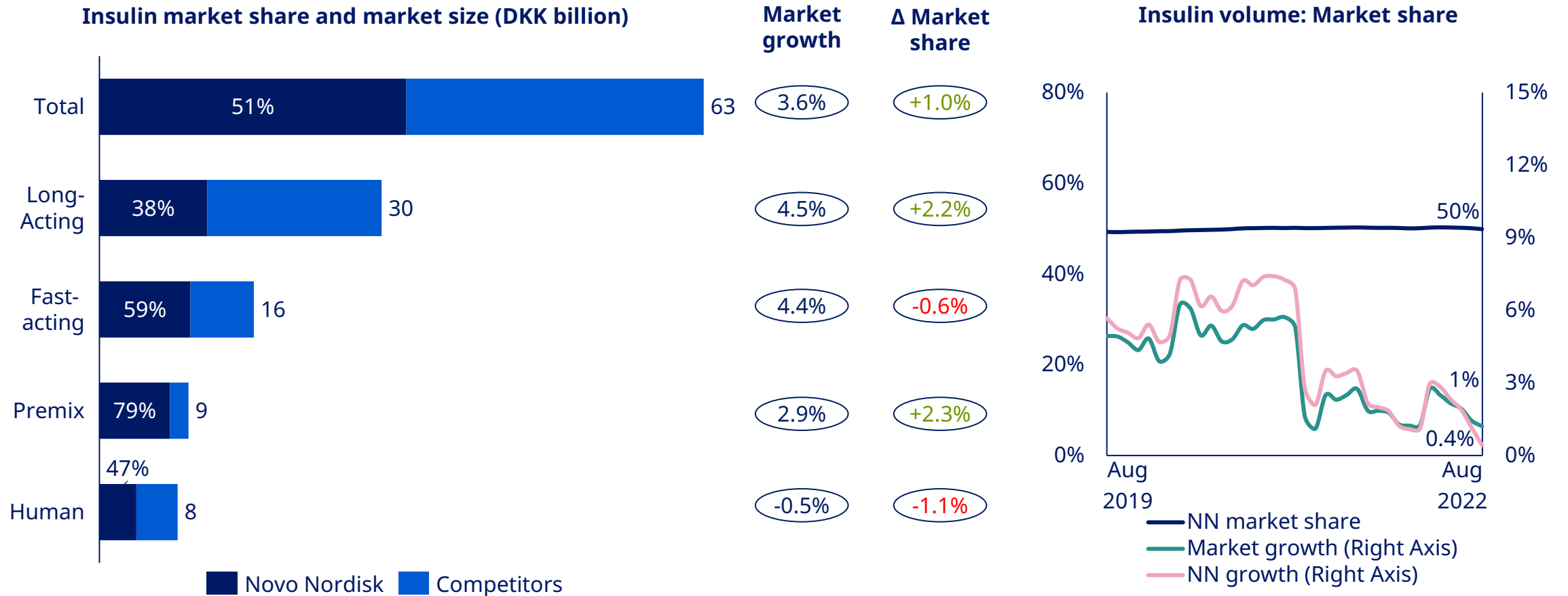
GLP-1 market size and growth



Source: IQVIA, Aug 2022, Value MAT, all countries; NN: Novo Nordisk



# Insulin market size and volume share of growth and market share in International Operations



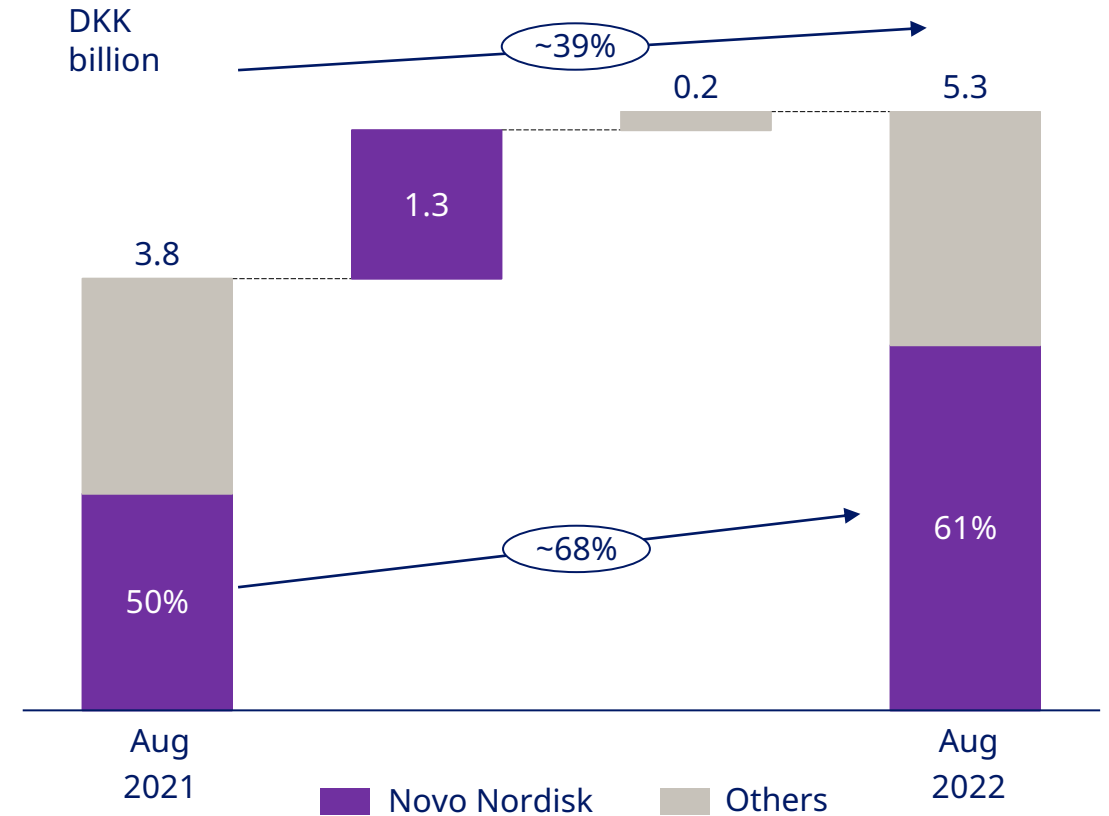
Source: IQVIA, Aug 2022, LHS graph – Value, RHS Graph - Volume, MAT, all countries; Share of growth not depicted due to too high numbers; NN: Novo Nordisk

# Obesity market share and market growth in International Operations

Obesity market growth and Novo Nordisk market share



Obesity market size and growth

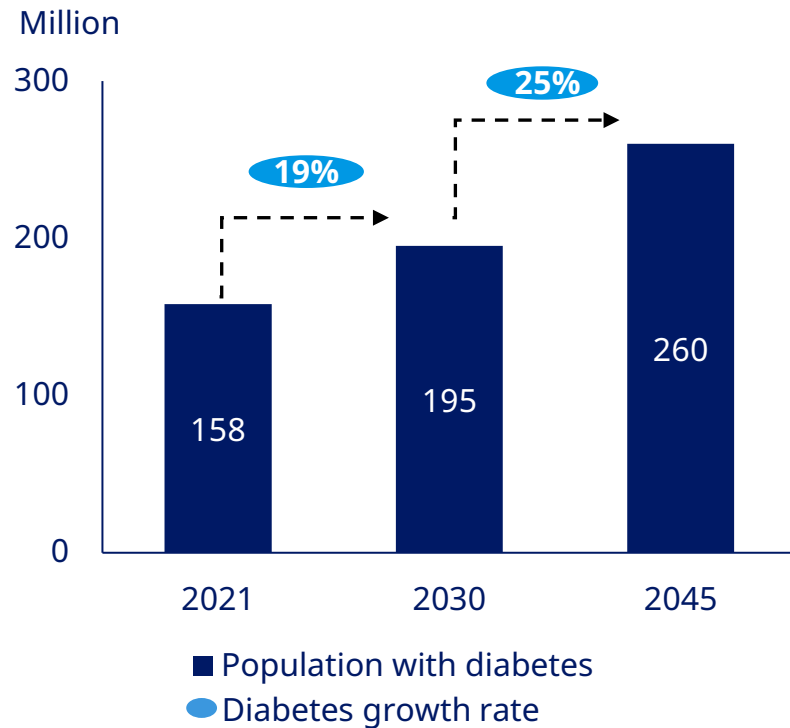


Source: IQVIA, August 2022, Value MAT, all countries

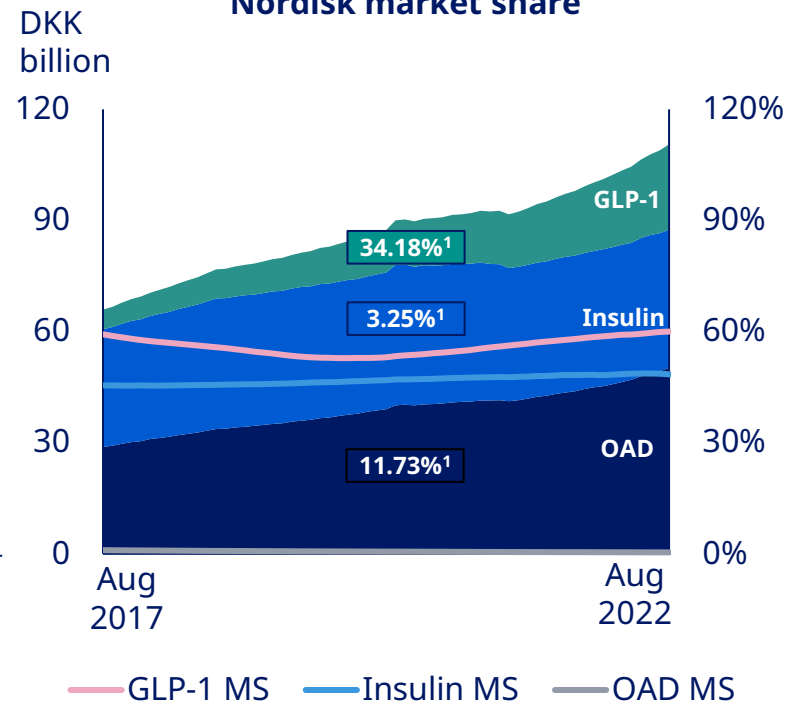


# EMEA at a glance

Diabetes trend



Diabetes market by value and Novo Nordisk market share



Novo Nordisk reported sales

First nine months of 2022	Sales (mDKK)	Growth <sup>2</sup>
<b>Total GLP-1<sup>3</sup></b>	<b>10,661</b>	<b>39%</b>
Long-acting insulin <sup>4</sup>	5,407	4%
Premix insulin <sup>5</sup>	1,986	-12%
Fast-acting insulin <sup>6</sup>	4,874	-1%
Human insulin	1,512	-10%
<b>Total insulin</b>	<b>13,779</b>	<b>-2%</b>
Other Diabetes care <sup>7</sup>	536	-1%
<b>Diabetes care</b>	<b>24,976</b>	<b>12%</b>
Obesity care <sup>8</sup>	2,575	96%
<b>Diabetes &amp; Obesity care</b>	<b>27,551</b>	<b>17%</b>
Rare disease <sup>9</sup>	5,171	-3%
<b>Total</b>	<b>32,722</b>	<b>13%</b>

Diabetes trend estimates based on the following International Diabetes Federation defined regions: Africa, Europe, Middle East and North Africa, South and Central America, South East Asia and Western Pacific Source: International Diabetes Federation: Diabetes Atlas 10<sup>th</sup> Edition 2021; EMEA: Europe, Middle East and Africa

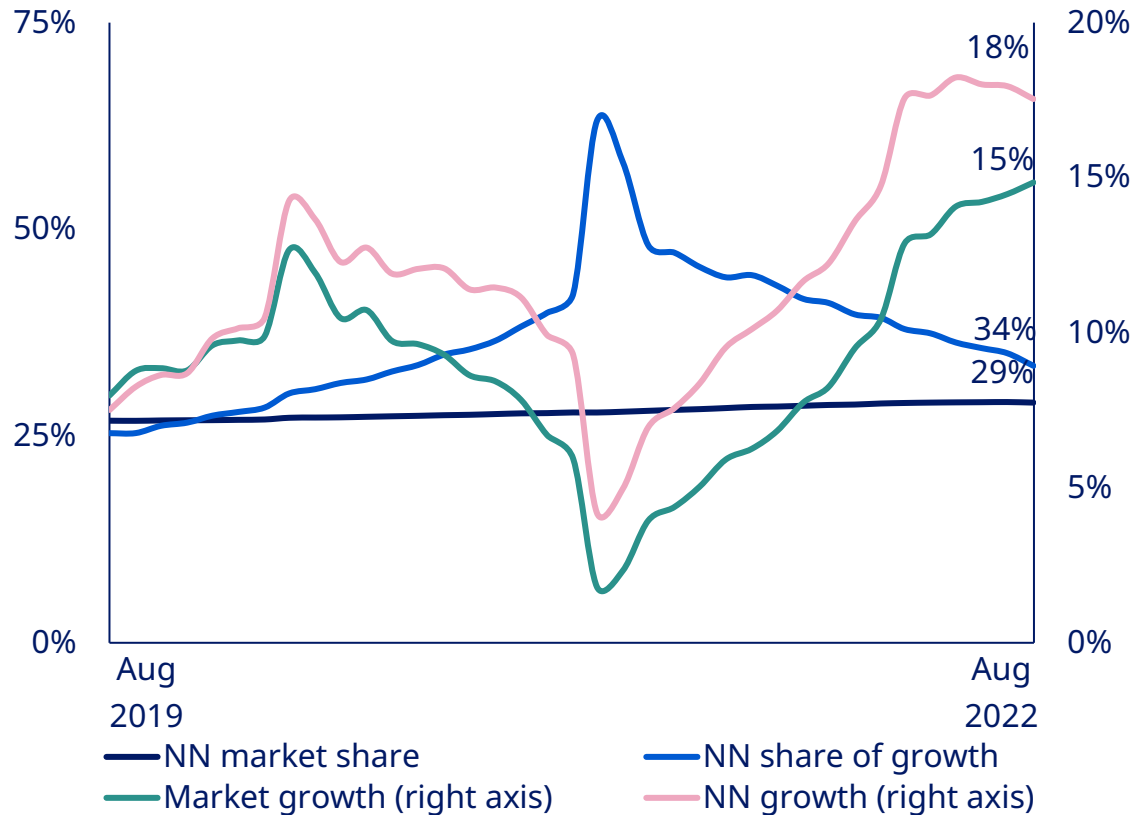
<sup>1</sup> CAGR calculated for 5-year period; Competitor insulin value market shares, as of Aug 2022: Novo Nordisk 48%, Sanofi 32% and Eli Lilly 16%; Competitor GLP-1 value market shares, as of Aug 2022: Novo Nordisk 59%, Eli Lilly 38% and AstraZeneca 3%; OAD: Oral anti-diabetic; MS: Market share; Source: IQVIA MAT, Aug 2022 value figures

<sup>2</sup> At Constant exchange rates; <sup>3</sup> Comprises Victoza®, Ozempic®, and Rybelsus®; <sup>4</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>5</sup> Comprises Ryzodeg® and NovoMix®; <sup>6</sup> Comprises Fiasp® and NovoRapid®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Obesity care comprises Saxenda® and Wegovy®; <sup>9</sup> Comprises primarily NovoSeven®, NovoEight®, NovoThirteen®, Esperoct®, Refixia®, Norditropin®, Vagifem® and Activelle®

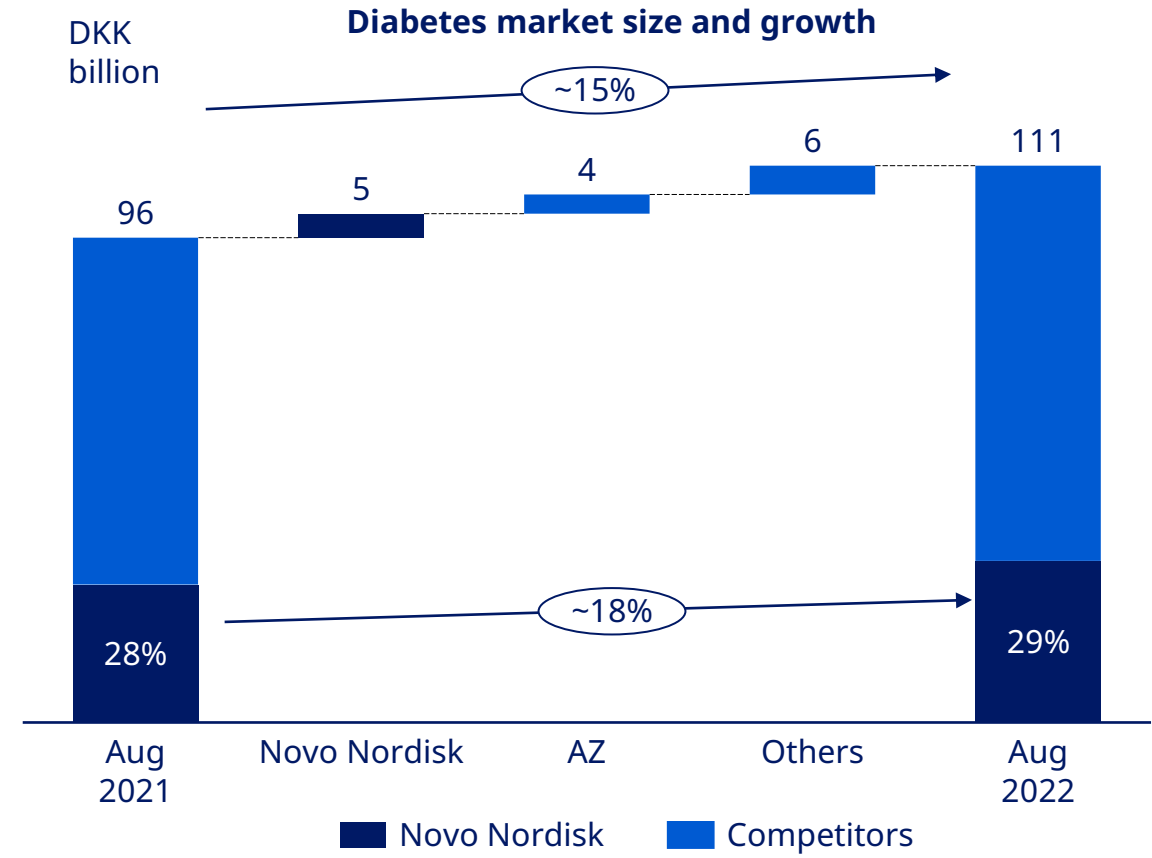


# Diabetes market share and market growth in EMEA

Diabetes market growth and Novo Nordisk market share



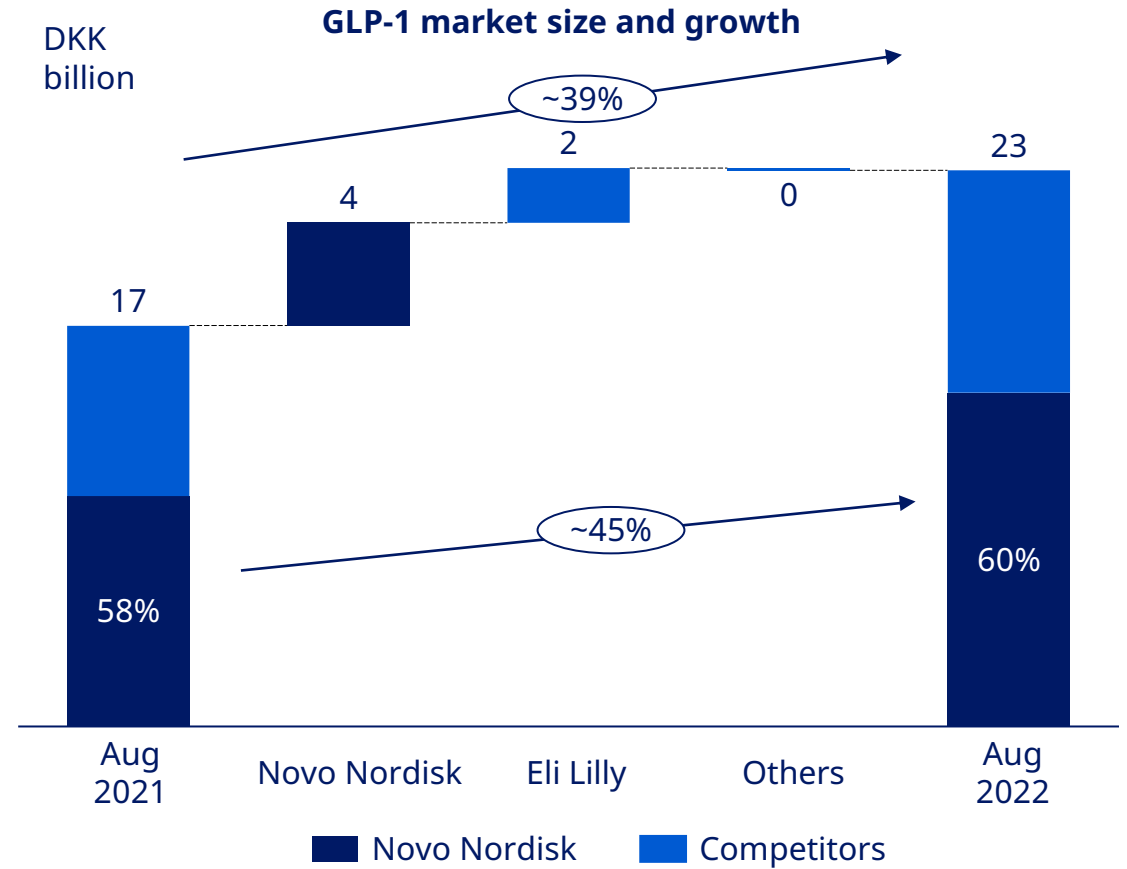
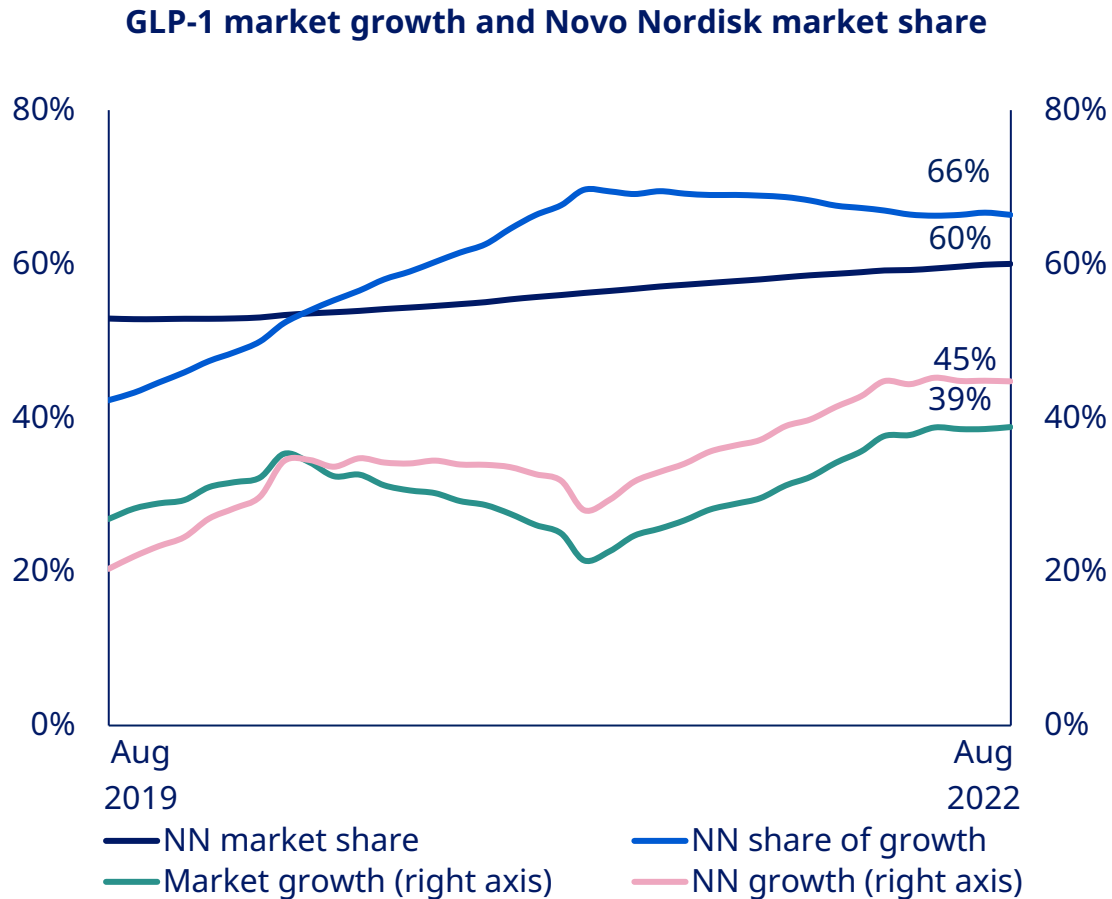
Diabetes market size and growth



Source: IQVIA, Aug 2022, Value, MAT, EMEA: Europe, Middle East and Africa; NN: Novo Nordisk; AZ- Astra Zeneca



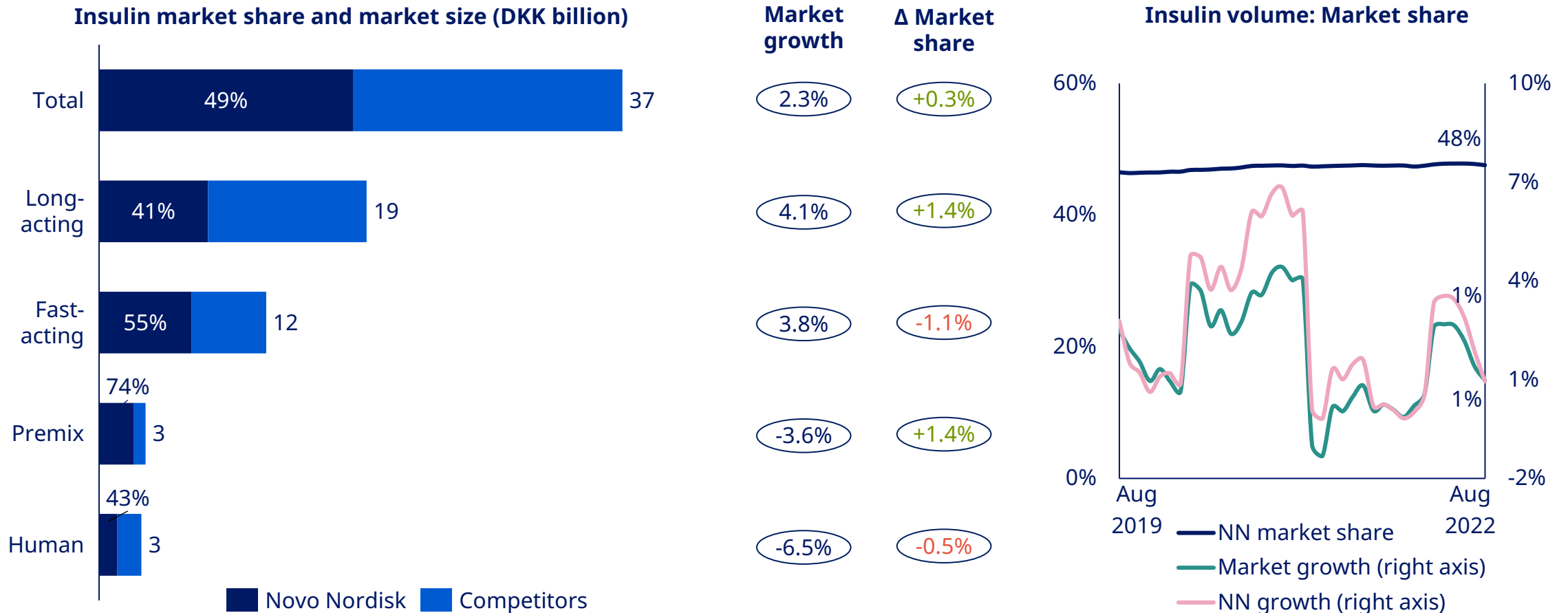
# GLP-1 market share and market growth in EMEA



Source: IQVIA, Aug 2022, Value, MAT, EMEA: Europe, Middle East and Africa; NN: Novo Nordisk



# Insulin market size and volume market share in EMEA

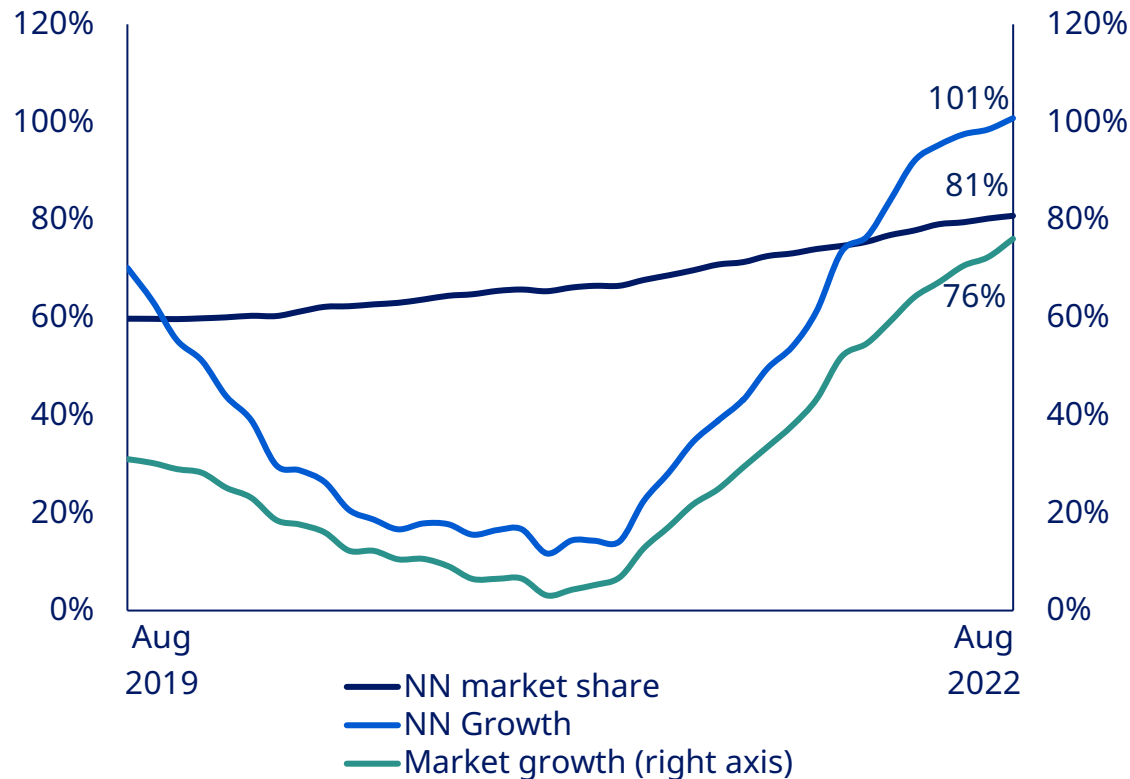


Source: IQVIA, Aug 2022, LHS graph – Value, RHS Graph - Volume, MAT, Europe, Middle East & Africa, Share of growth not depicted due to too high numbers; NN: Novo Nordisk

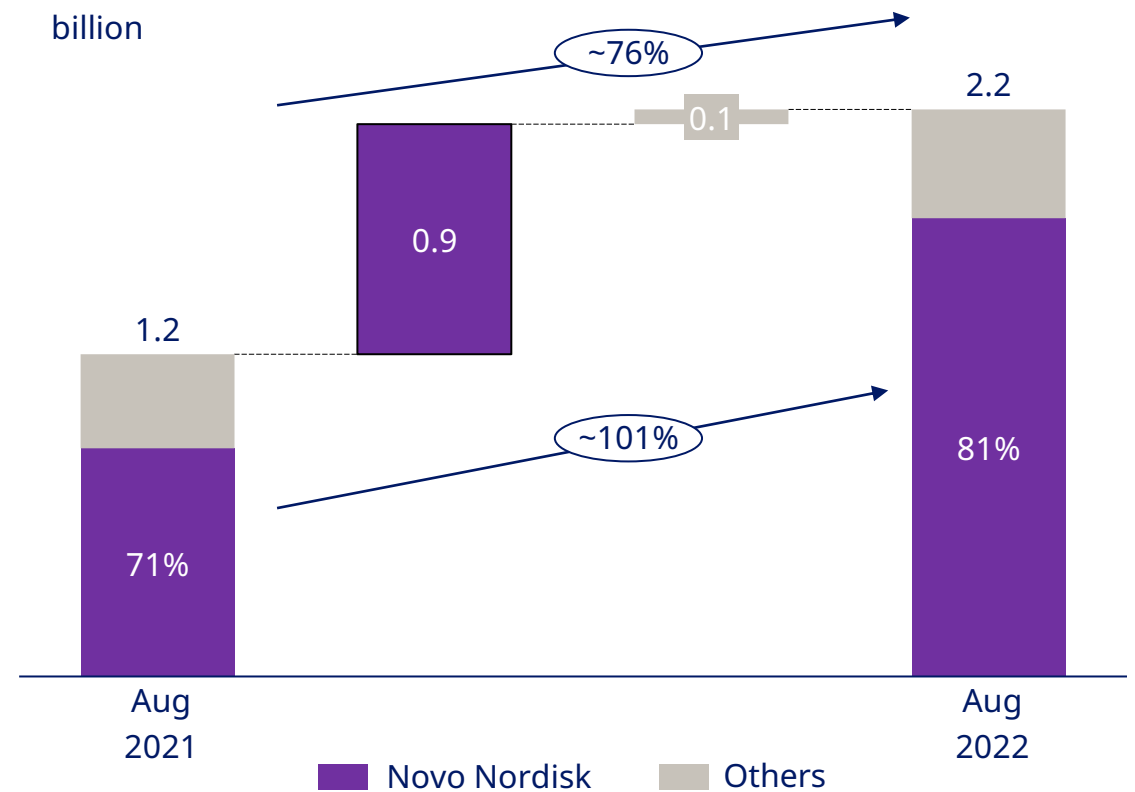


# Obesity market share and market growth in EMEA

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



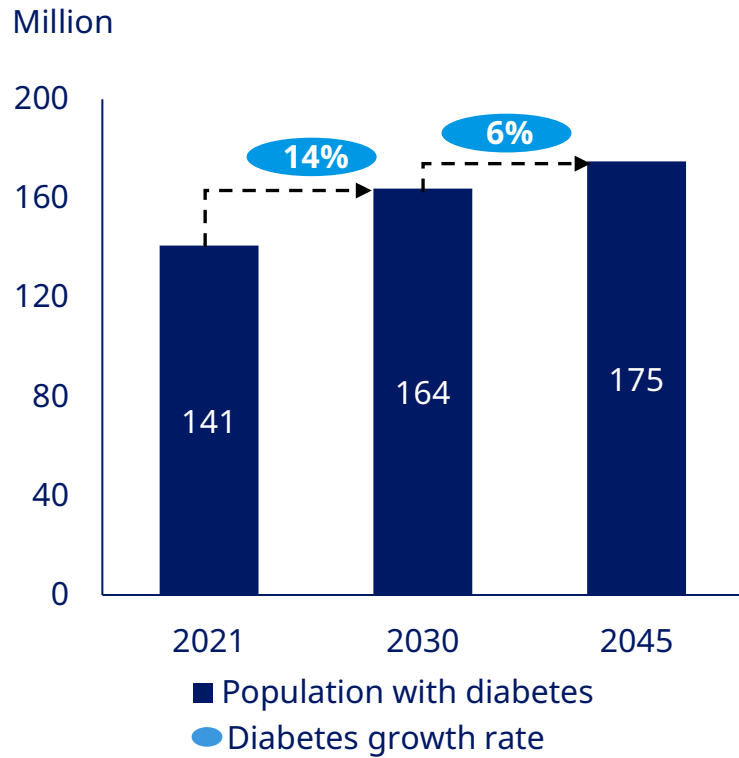
**Obesity market size and growth**  
DKK billion



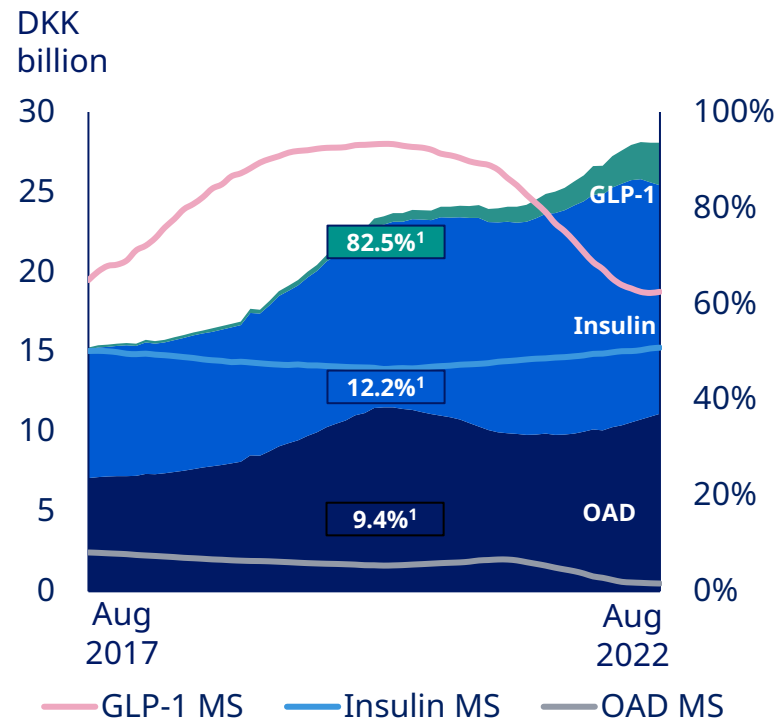


# Region China at a glance

Diabetes trend



Diabetes market by value and Novo Nordisk market share



Novo Nordisk reported sales

First nine months of 2022	Sales (mDKK)	Growth <sup>2</sup>
<b>Total GLP-1<sup>3</sup></b>	<b>2,737</b>	<b>87%</b>
Long-acting insulin <sup>4</sup>	1,329	-23%
Premix insulin <sup>5</sup>	3,913	-12%
Fast-acting insulin <sup>6</sup>	1,583	-19%
Human insulin	1,480	-36%
<b>Total insulin</b>	<b>8,305</b>	<b>-21%</b>
Other Diabetes care <sup>7</sup>	960	-24%
<b>Diabetes care</b>	<b>12,002</b>	<b>-9%</b>
Obesity care <sup>8</sup>	110	168%
<b>Diabetes &amp; Obesity care</b>	<b>12,112</b>	<b>-9%</b>
Rare disease <sup>8</sup>	733	131%
<b>Total</b>	<b>12,845</b>	<b>-5%</b>

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

Competitor insulin value market shares, as of Aug 2022: Novo Nordisk 50%, Sanofi 17%, Gan & Lee 13% and Eli Lilly 8%; Competitor GLP-1 value market shares, as of Aug 2022: Novo Nordisk 67% and Eli Lilly 25%

OAD: Oral anti-diabetic; MS: Market Share; Source: IQVIA MAT, Aug 2022 value figures

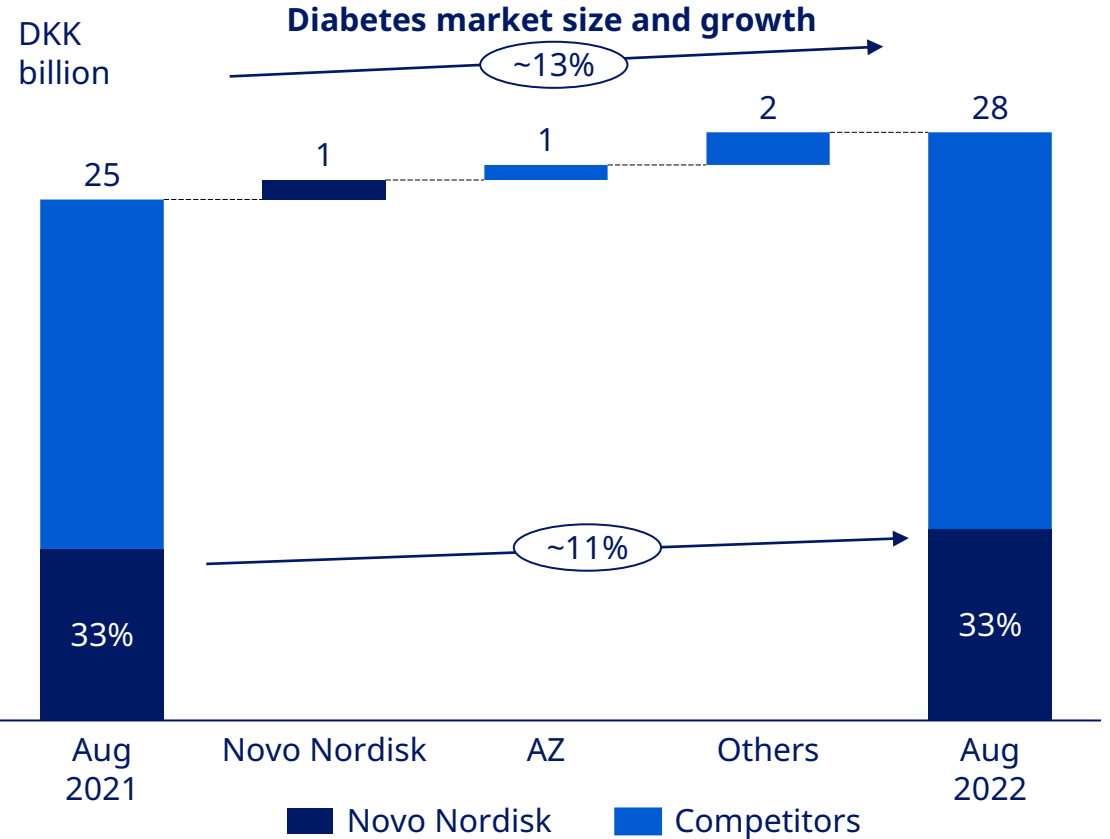
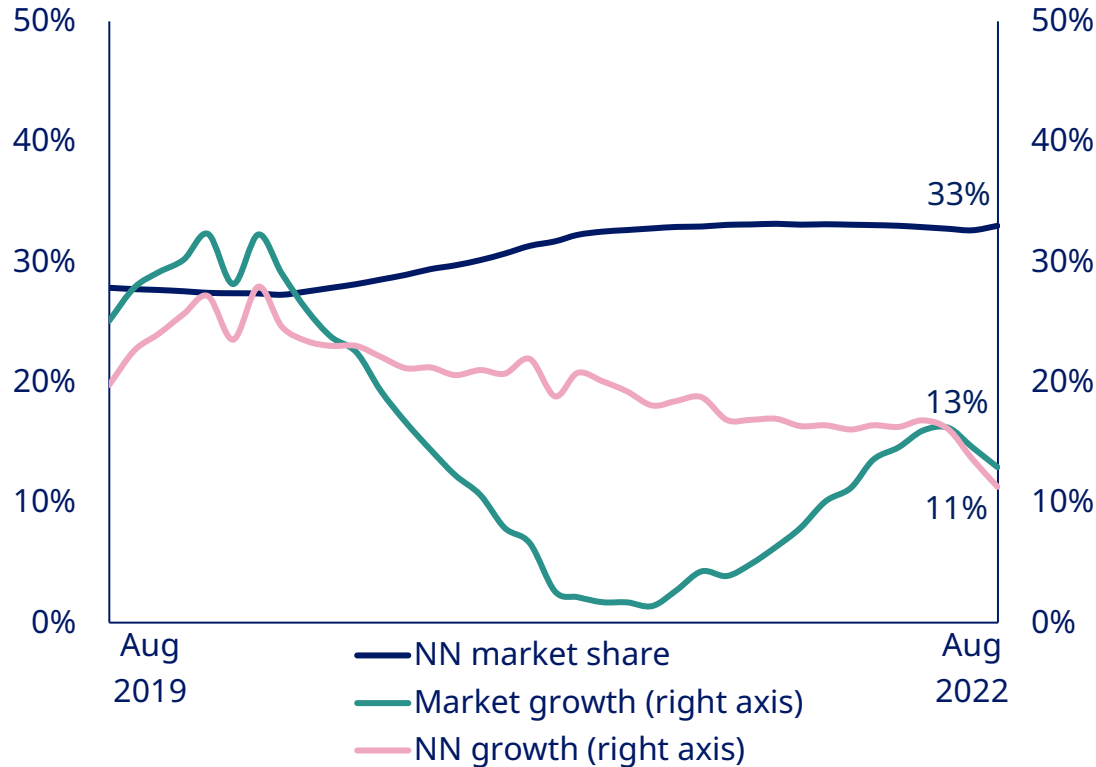
<sup>2</sup> At constant exchange rates; <sup>3</sup> Comprises Victoza® and Ozempic®; <sup>4</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>5</sup> Comprises NovoMix® and Ryzodeg®; <sup>6</sup> Comprises NovoRapid®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Comprises Saxenda®; <sup>9</sup> Comprises primarily NovoSeven®, NovoEight® and Norditropin®





# Diabetes market share and market growth in Region China

Diabetes market growth and Novo Nordisk market share

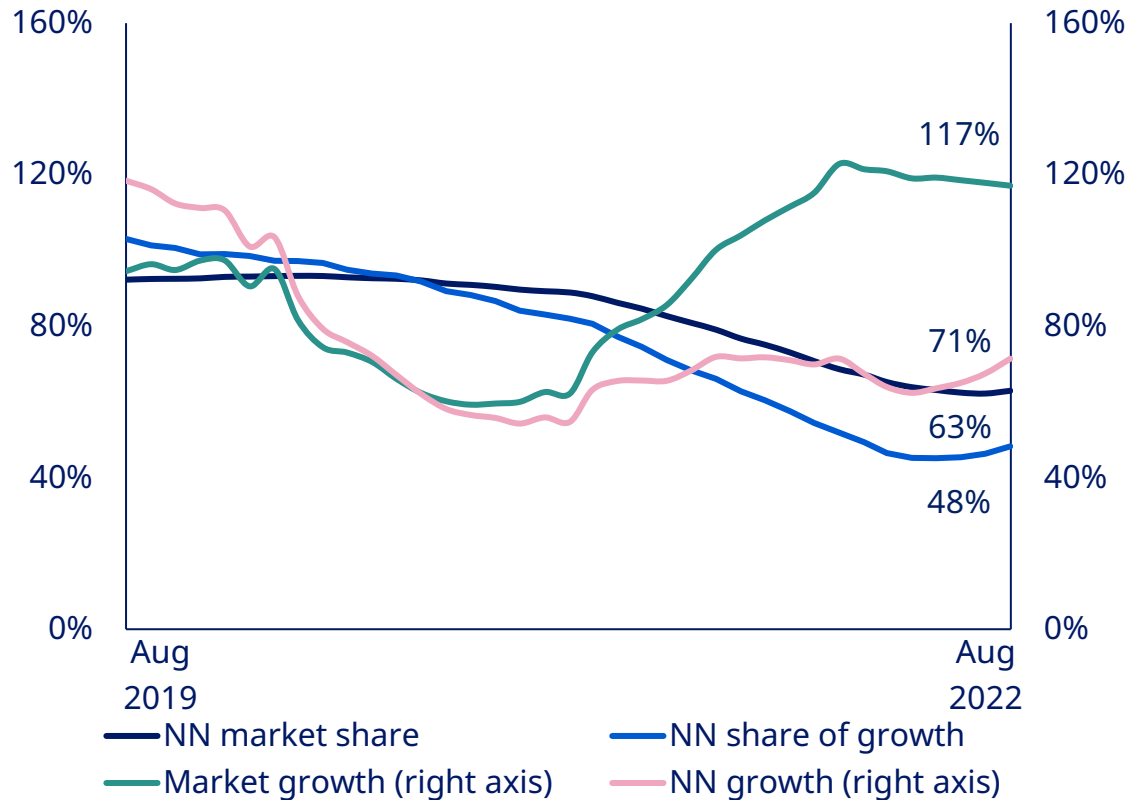


Source: IQVIA, Aug 2022, Value, MAT, NN: Novo Nordisk  
Region China covers Mainland China, Taiwan, and Hong Kong

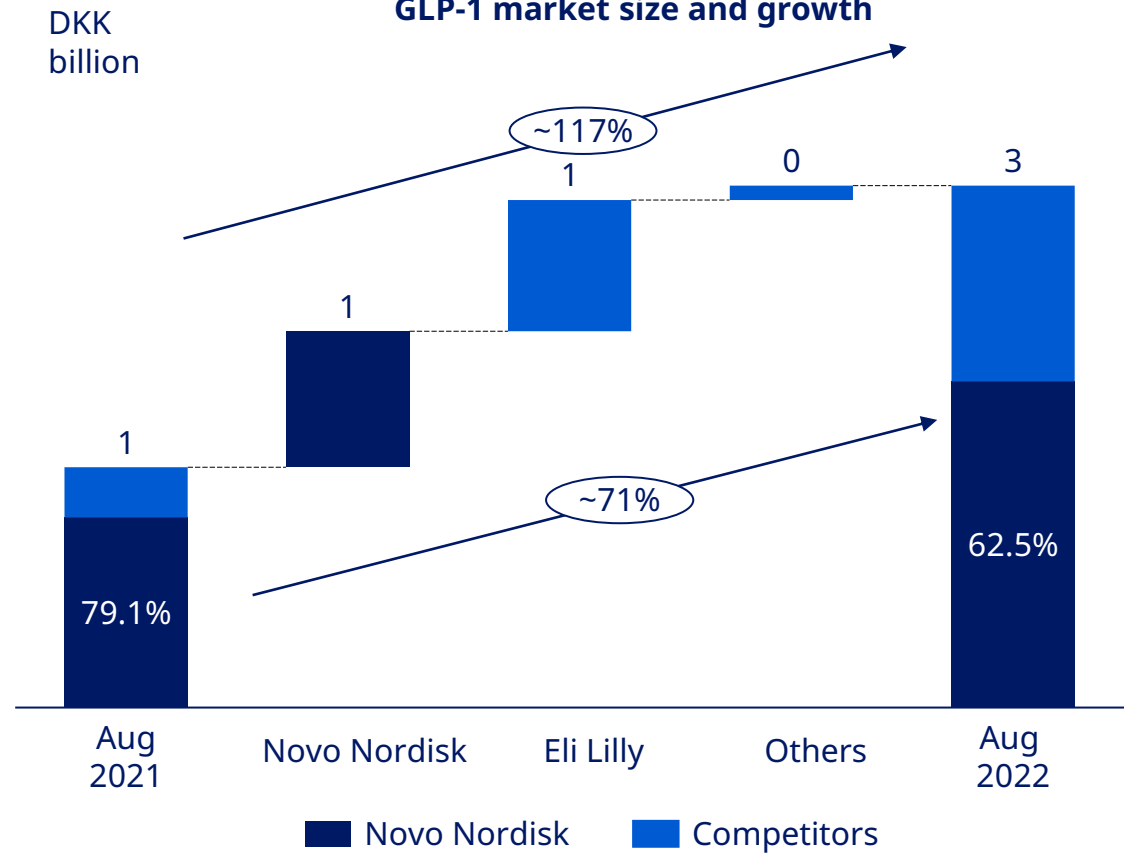


# GLP-1 market share and market growth in Region China

GLP-1 market growth and Novo Nordisk market share



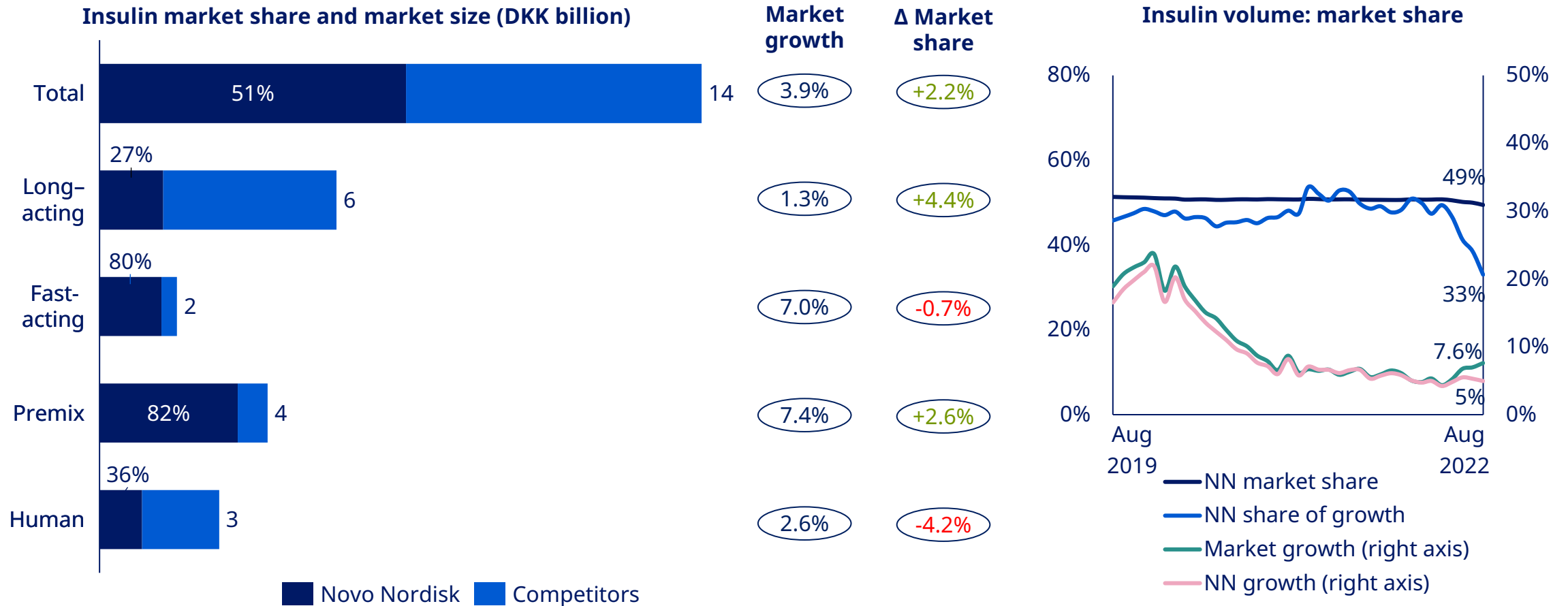
GLP-1 market size and growth



Source: IQVIA, Aug 2022, Value, MAT; NN: Novo Nordisk; Region China covers Mainland China, Taiwan, and Hong Kong



# Insulin market size and volume share of growth and market share in Region China

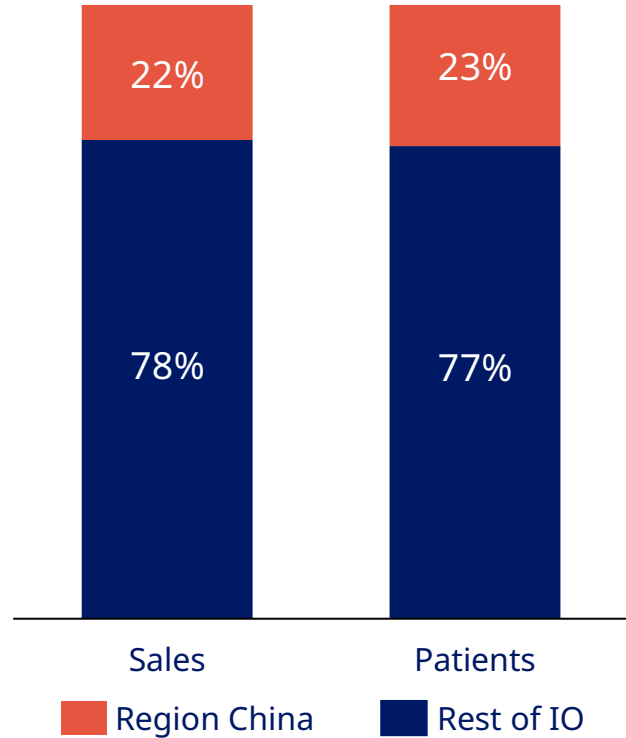


Source: IQVIA, Aug 2022, LHS graph – Value, RHS Graph - Volume, MAT; NN: Novo Nordisk; Region China covers Mainland China, Taiwan, and Hong Kong



# Region China remains a key strategic opportunity

Region China is a large market with ~140 million people living with diabetes



### Outcome of VBP insulin in China

- Price cuts ~40-50% as a result of VBP
- Keeps ~50% of own brand volume in scope
- Resource re-allocation towards growth products



### Opportunities and strategic priorities Large growing diabetes market



- Market of 26 bDKK mainly consisting of OAD and insulin
- Diabetes market growth of ~11%

### Bring innovation faster to market



- **Diabetes:** Rybelsus® and ONWARDS programme for Icodec
- **Rare disease:** Across portfolio

### Treat more patients



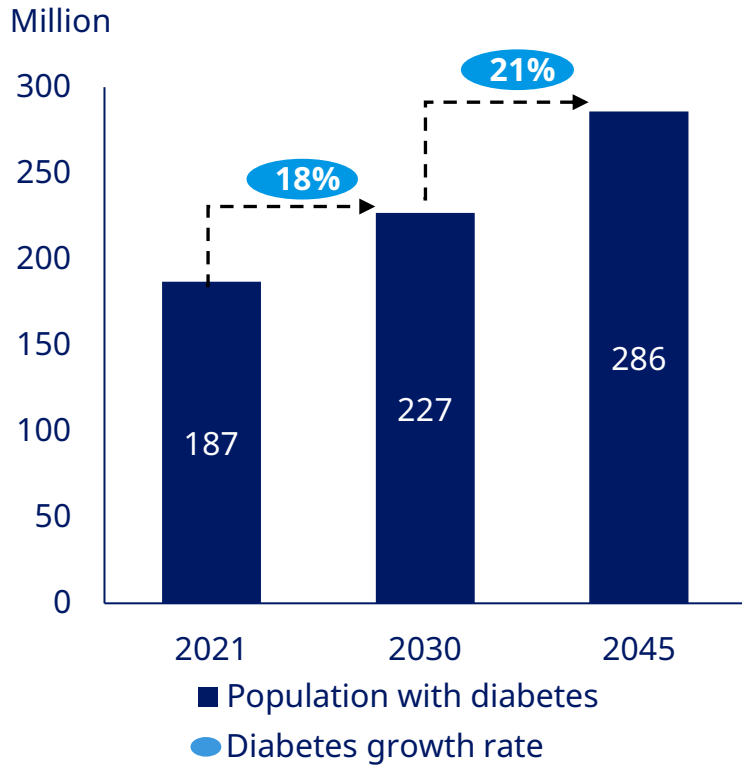
- Expand patient base across new insulins and GLP-1s

Note: IQVIA value in China only covers ~60% of the market  
 Region China includes Mainland China, Taiwan and Hong Kong; VBP: Volume-based procurement; OAD: Oral anti-diabetes; IO: International Operations  
 Source: Full year 2021 numbers based on Company Announcement (sales) and Diabetes Atlas, 10th edition, (patients)

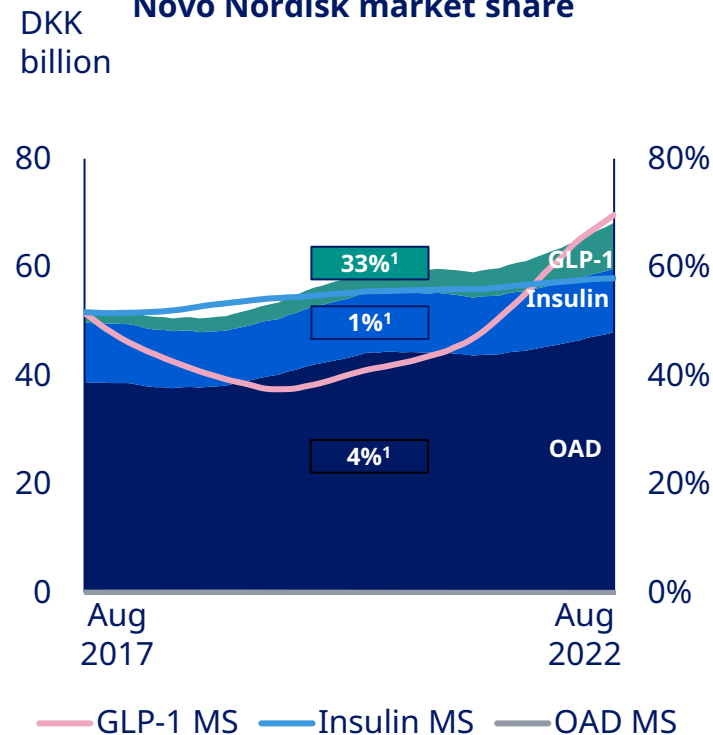


# Rest of World at a glance

Diabetes trend in population



Diabetes market by value and Novo Nordisk market share



Novo Nordisk reported sales

	First nine months of 2022	Sales (mDKK)	Growth <sup>2</sup>
<b>Total GLP-1<sup>3</sup></b>		<b>5,488</b>	<b>86%</b>
Long-acting insulin <sup>4</sup>		1,981	13%
Premix insulin <sup>5</sup>		1,956	4%
Fast-acting insulin <sup>6</sup>		1,834	9%
Human insulin		1,975	-11%
<b>Total insulin</b>		<b>7,746</b>	<b>3%</b>
Other Diabetes care <sup>7</sup>		417	11%
<b>Diabetes care</b>		<b>13,651</b>	<b>25%</b>
Obesity care <sup>8</sup>		1,456	38%
<b>Diabetes &amp; Obesity care</b>		<b>15,107</b>	<b>27%</b>
Rare disease <sup>9</sup>		3,741	5%
<b>Total</b>		<b>18,848</b>	<b>22%</b>

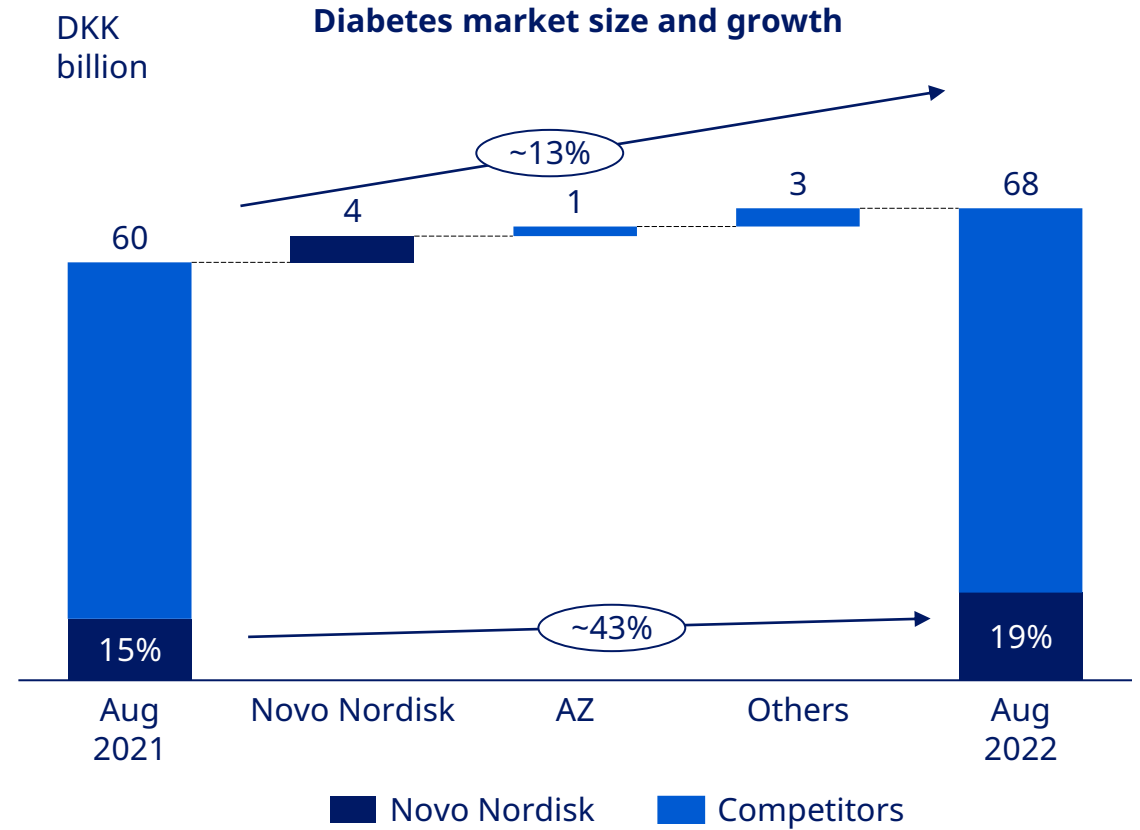
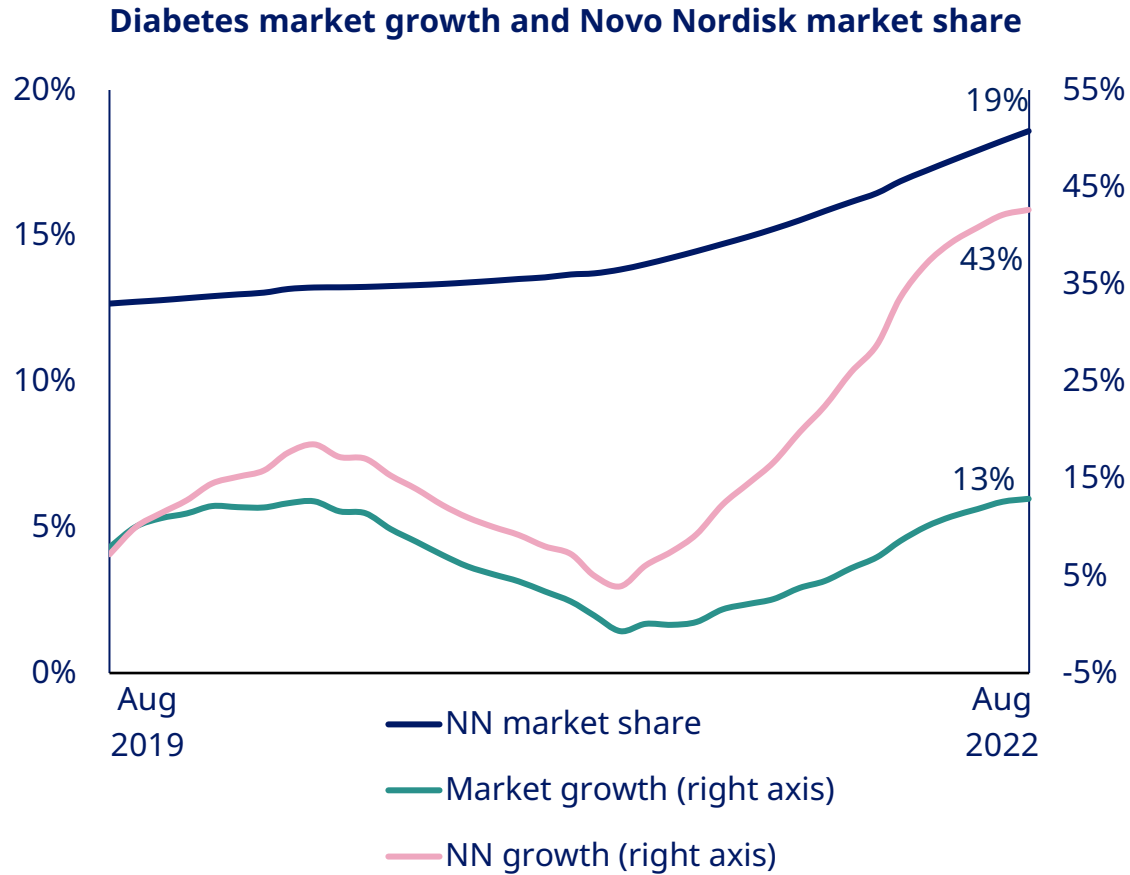
Diabetes trend estimates based on the following International Diabetes Foundation defined regions: South & Central America, Southeast Asia  
 Source: International Diabetes Federation: Diabetes Atlas 10<sup>th</sup> Edition 2021

<sup>1</sup> CAGR calculated for last 5-year period  
 Competitor insulin value market shares, as of Aug 2022: Novo Nordisk 57%, Sanofi 24% and Eli Lilly 14%; Competitor GLP-1 value market shares, as of Aug 2022: Novo Nordisk 62%, Eli Lilly 37% and AstraZeneca 1%  
 OAD: Oral anti-diabetic; MS: Market Share; Source: IQVIA MAT, Aug 2022 value figures

<sup>2</sup> At constant exchange rates; <sup>3</sup> Comprises Victoza®, Ozempic® and Rybelsus®; <sup>4</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>5</sup> Comprises NovoMix® and Ryzodeg®; <sup>6</sup> Comprises NovoRapid® and Fiasp®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Comprises Saxenda®; <sup>9</sup> Comprises primarily Esperoct®, Refixia®, NovoSeven®, NovoEight® and Norditropin®



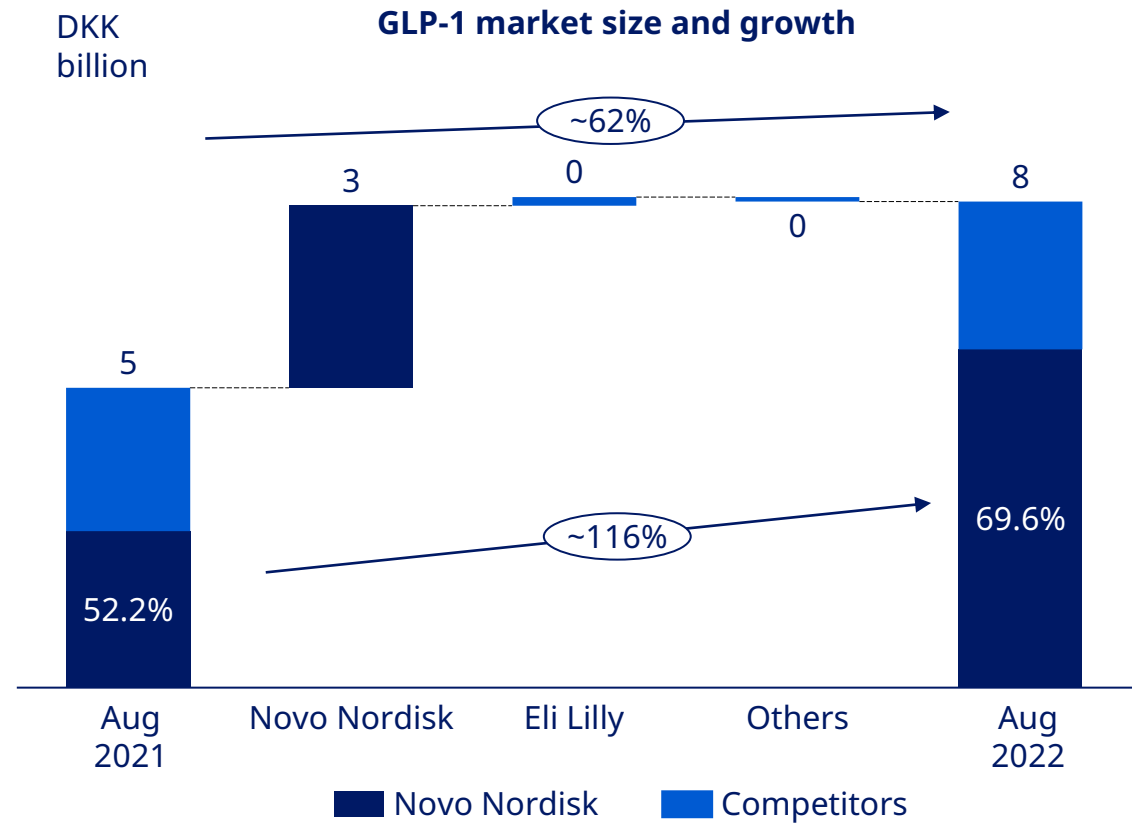
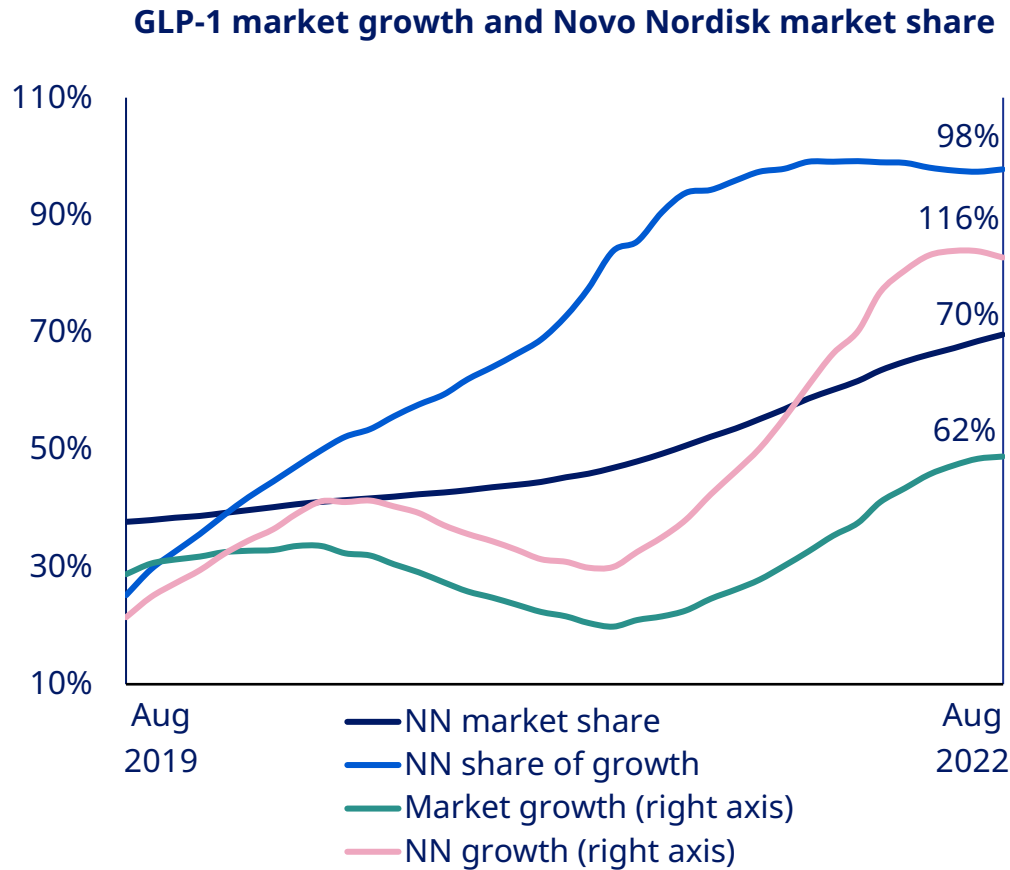
# Diabetes market share and market growth in Rest of World



Source: IQVIA, Aug 2022, value, MAT, Rest of world; NN: Novo Nordisk AZ: Astra Zeneca

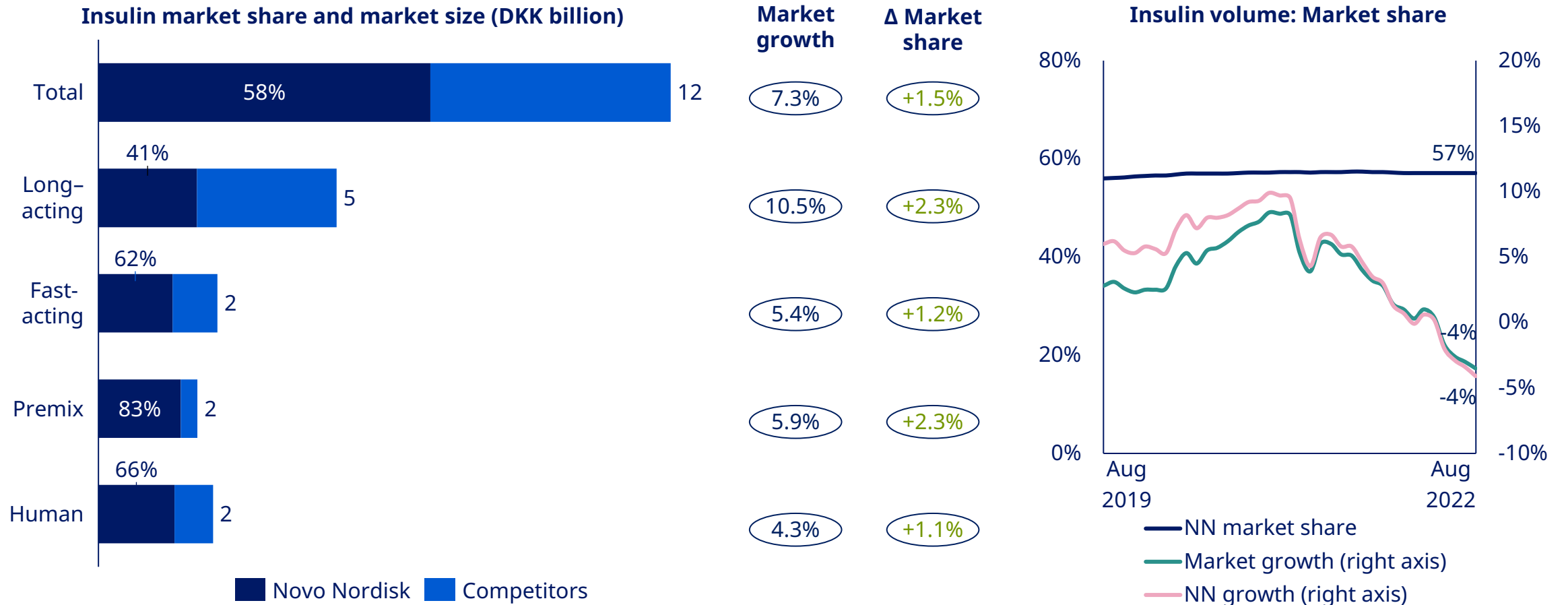


# GLP-1 market share and market growth in Rest of World





# Insulin market size and volume market share in Rest of World



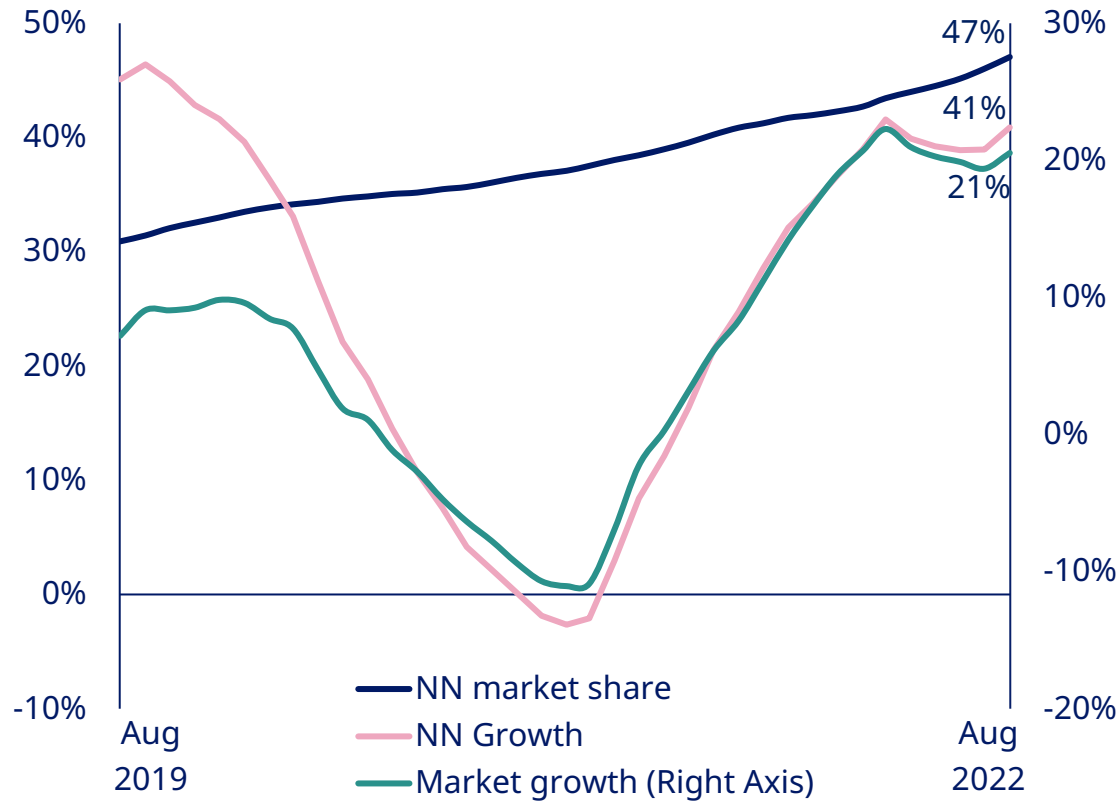
Source: IQVIA, Aug 2022; LHS graph – Value, RHS Graph - Volume, MAT; Share of growth not depicted due to too high numbers; NN: Novo Nordisk



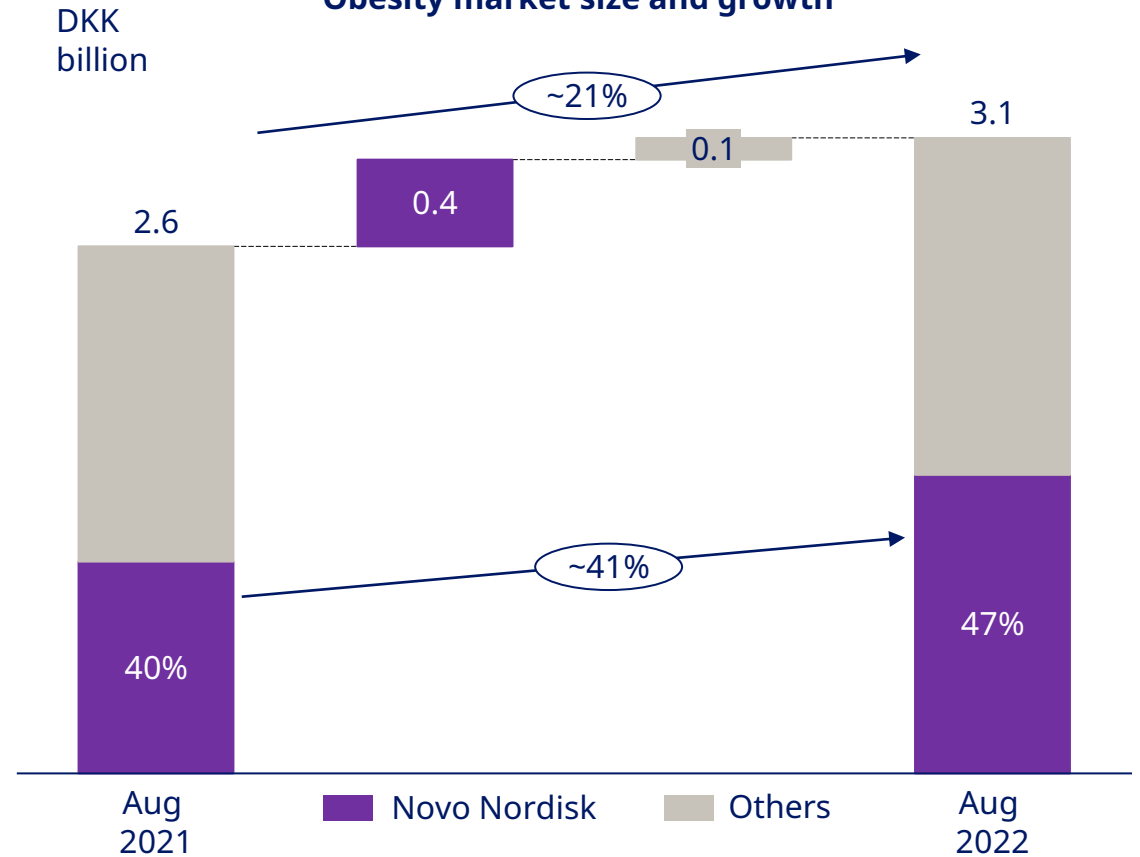


# Obesity market share and market growth in Rest of World

Obesity market growth and Novo Nordisk market share



Obesity market size and growth



Source: IQVIA, Aug 2022, Value, MAT; NN: Novo Nordisk

# North America Operations

NAO growth drivers	131
USA health care system	132
NAO at a glance	134

Leonard  
Thompson  
1922



novo nordisk

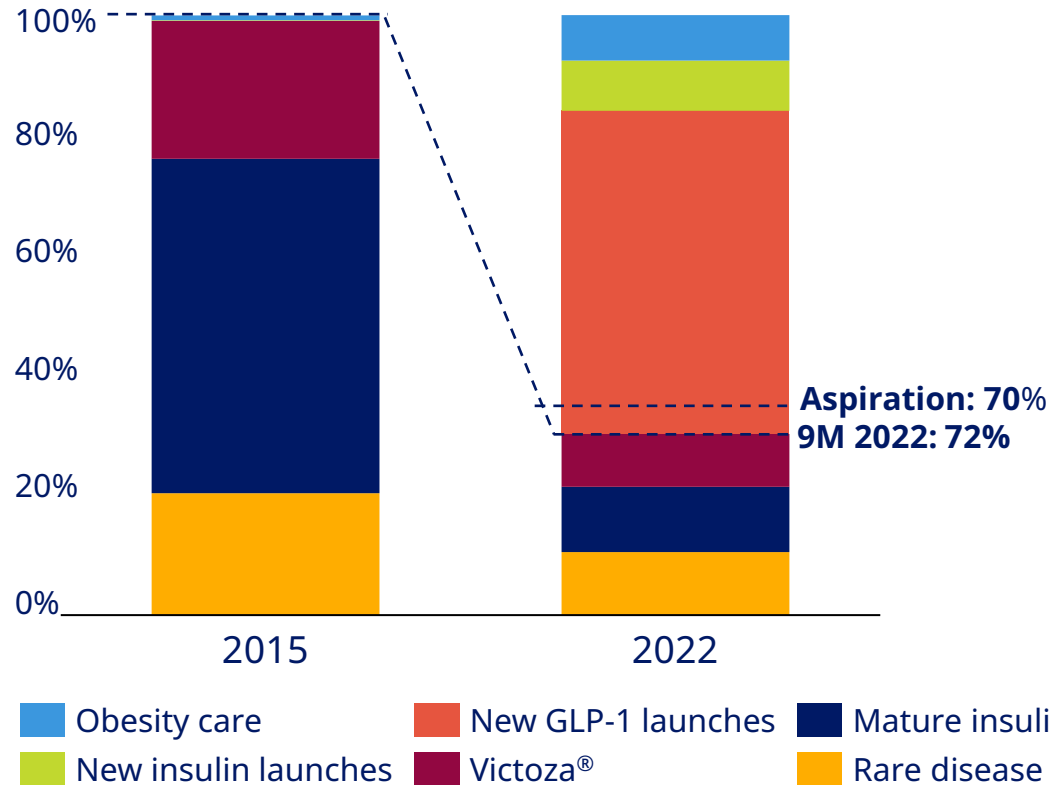


# NAO remains committed to its strategic aspiration of transforming 70% of US sales by 2022

The strategic aspiration is to transform 70% of sales

Strategy Framework for North America Operations

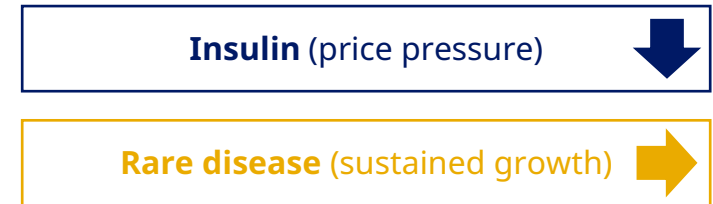
ILLUSTRATIVE



Maximise the semaglutide molecule



Manage foundation

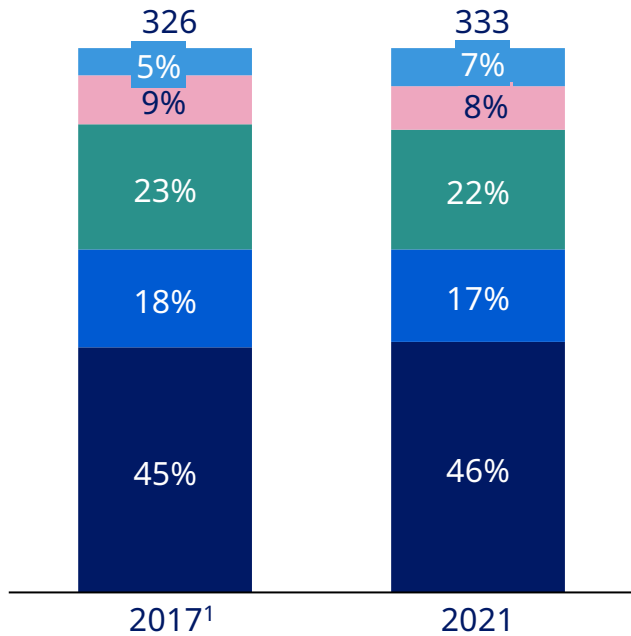


NAO: North America Operations  
New insulin launches includes: Tresiba®, Xultophy®, Fiasp® and follow-on brand insulin; New GLP-1 launches includes: Ozempic® and Rybelsus®



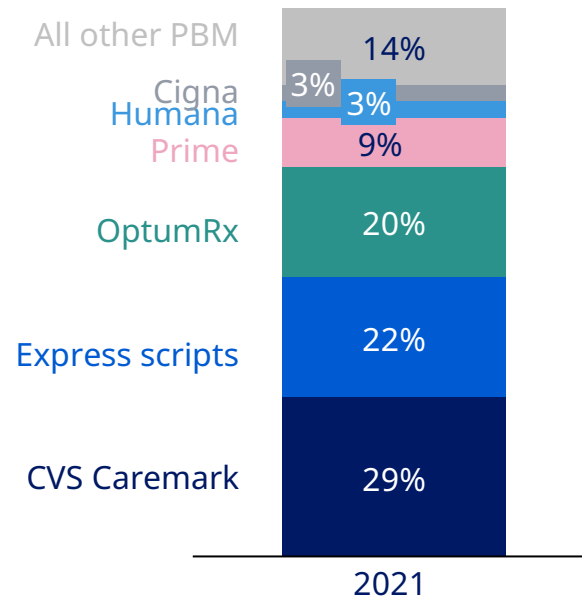
# US health insurance is dominated by a few large commercial payers

US population by health insurance status has been stable in recent years

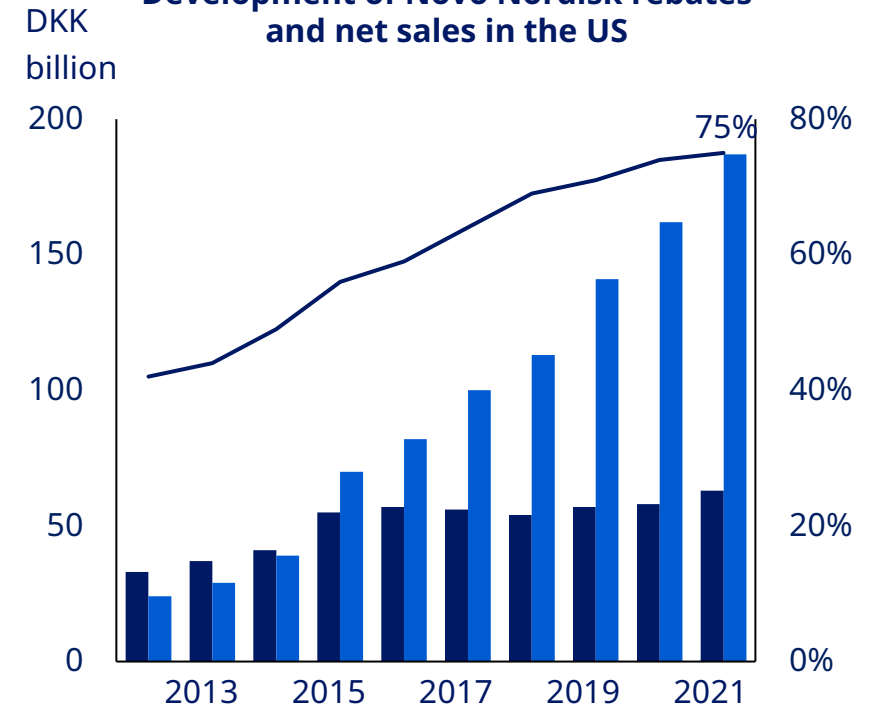


- Managed care<sup>2</sup>
- Medicare
- Medicaid/CHIP
- Uninsured
- Public exchanges

Covered lives by PBM



Development of Novo Nordisk rebates and net sales in the US



- Net sales
- Rebates, % of gross sales
- Rebates

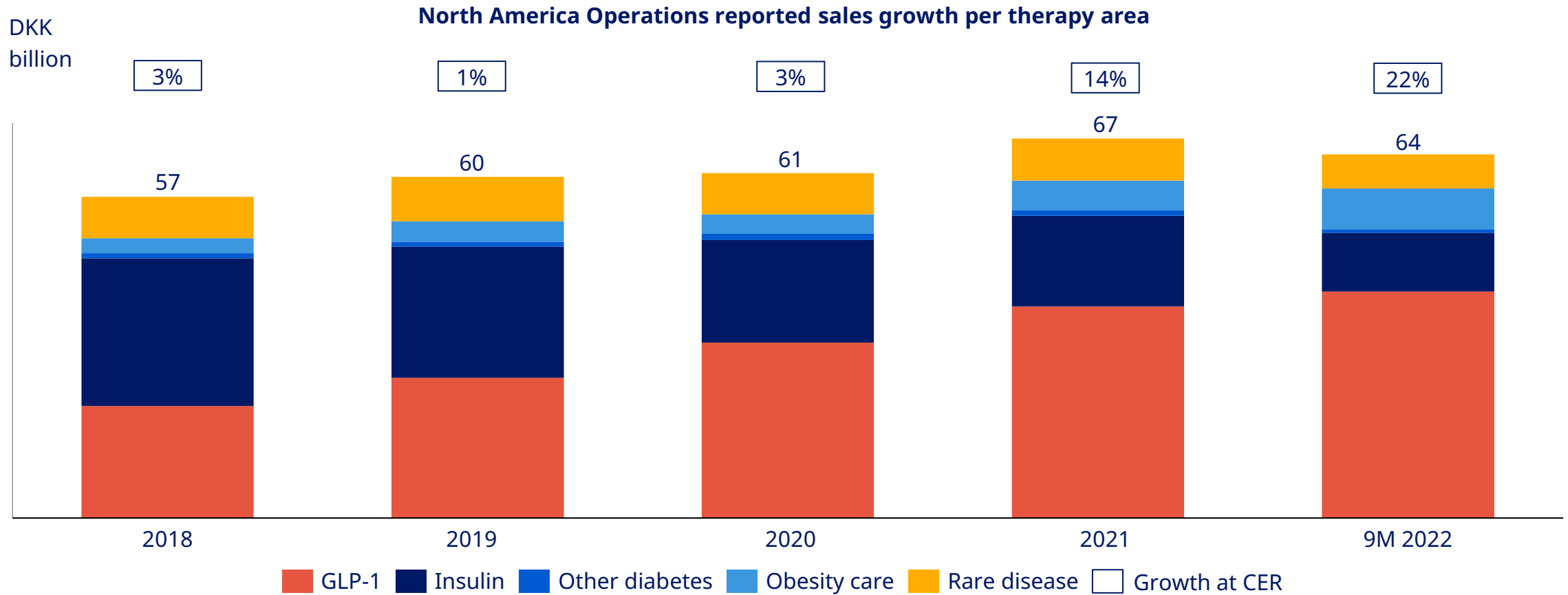
<sup>1</sup> 2017 data reflect historical data through Oct 2017

<sup>2</sup> Managed care population is slightly underestimated as only population under the age 65 is captured to avoid double counting with those eligible for Medicare. Source: Centres for Medicare and Medicaid services, office of the actuary, National Health expenditures Projections

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



# North America Operations growth has accelerated

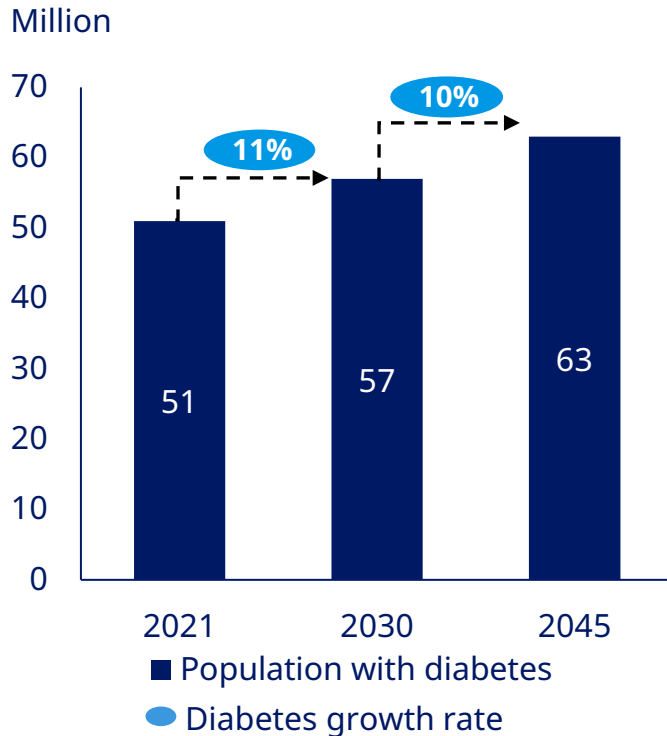


CER: Constant exchange rate; 9M: 9 months  
Source: Quarterly company announcement

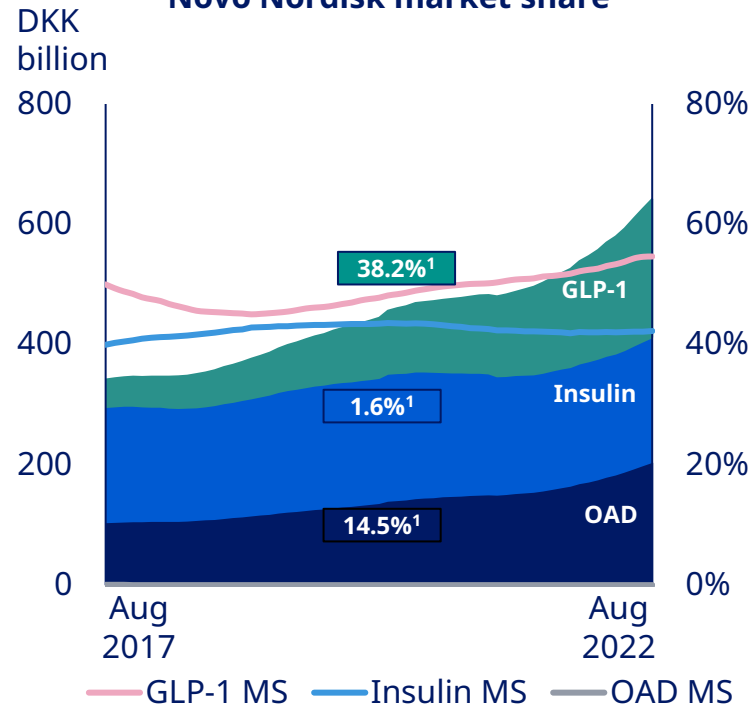


# North America Operations at a glance

Diabetes trend in population



Diabetes market by value and Novo Nordisk market share



Novo Nordisk reported sales

First nine months of 2022	Sales (mDKK)	Growth <sup>2</sup>
<b>Total GLP-1<sup>3</sup></b>	<b>40,133</b>	<b>39%</b>
Long-acting insulin <sup>4</sup>	4,122	-27%
Premix insulin <sup>5</sup>	364	-26%
Fast-acting insulin <sup>6</sup>	4,701	-16%
Human insulin	1,249	-6%
<b>Total insulin</b>	<b>10,436</b>	<b>-20%</b>
Other Diabetes care <sup>7</sup>	599	-26%
<b>Diabetes care</b>	<b>51,168</b>	<b>20%</b>
Obesity care <sup>8</sup>	7,235	77%
<b>Diabetes &amp; Obesity care</b>	<b>58,403</b>	<b>25%</b>
Rare disease <sup>9</sup>	6,044	-3%
<b>Total</b>	<b>64,447</b>	<b>22%</b>

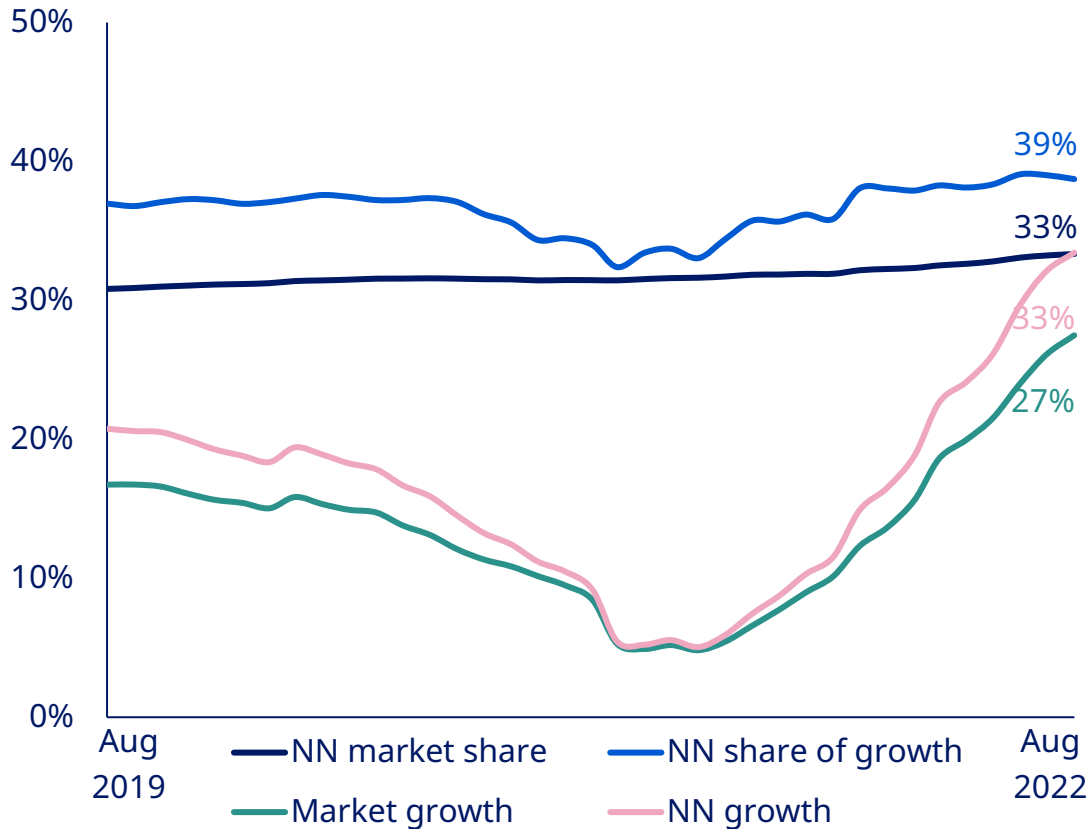
<sup>1</sup> CAGR calculated for 5-year period  
 Competitor insulin value market shares, as of Aug 2022: Novo Nordisk 42%, Eli Lilly 30% and Sanofi 27%; Competitor GLP-1 value market shares, as of Aug 2022: Novo Nordisk 53%, Eli Lilly 44% and AstraZeneca 3%  
 OAD: Oral anti-diabetic; MS: Market Share; Source: IQVIA MAT, Aug 2022 value figures

<sup>2</sup> At constant exchange rates; <sup>3</sup> Comprises Victoza®, Ozempic®, and Rybelsus®; <sup>4</sup> Comprises Tresiba®, Xultophy® and Levemir®; <sup>5</sup> Comprises NovoMix®; <sup>6</sup> Comprises Fiasp® and NovoRapid®; <sup>7</sup> Comprises NovoNorm® and needles; <sup>8</sup> Comprises Saxenda® and Wegovy® <sup>9</sup> Comprises primarily NovoSeven®, NovoEight®, Esperoct®, NovoThirteen®, Refixia®, Norditropin®, Vagifem® and Activelle®

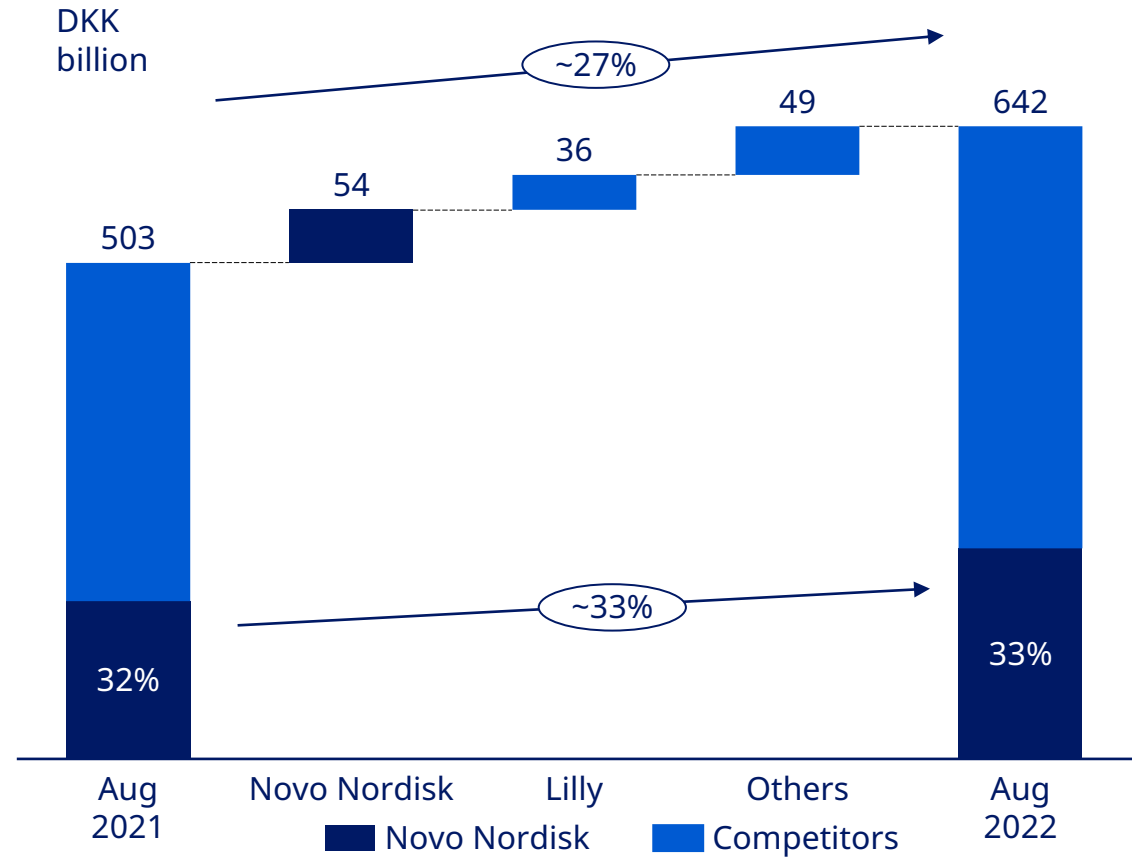


# Diabetes market share and market growth in North America Operations

Diabetes market growth and Novo Nordisk market share



Diabetes market size and growth

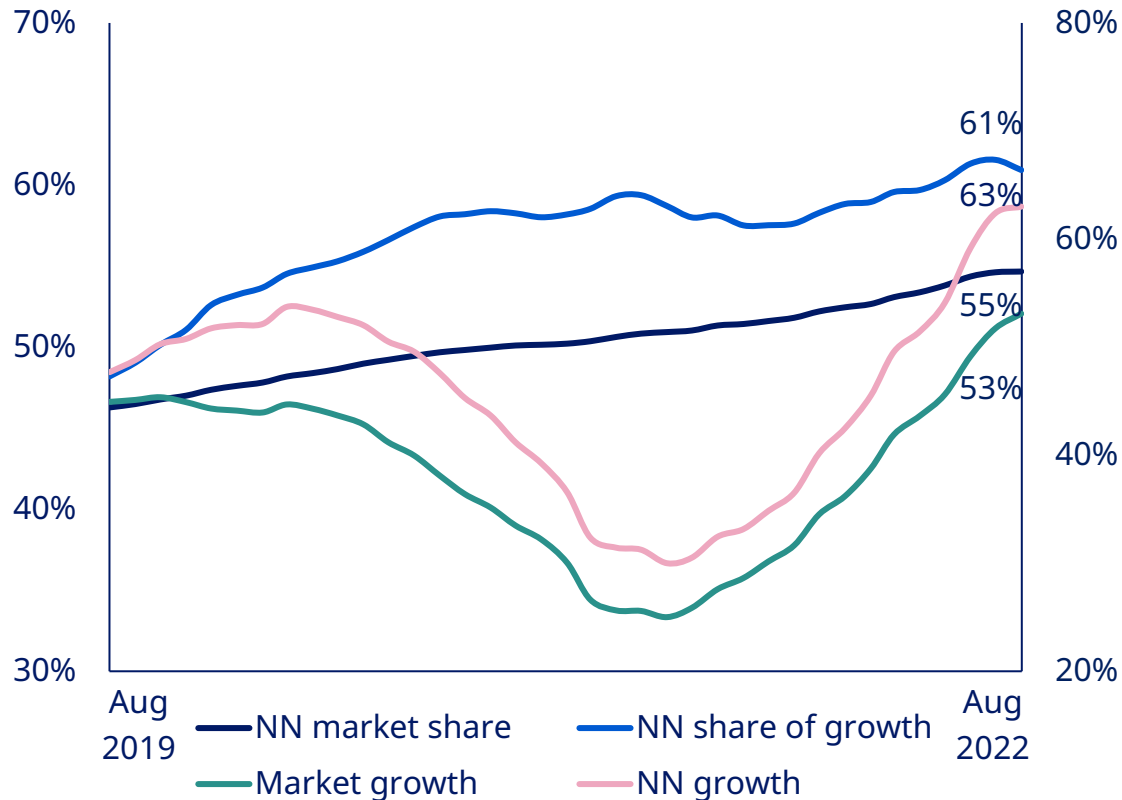


Source: IQVIA, Aug 2022, value, MAT; NN: Novo Nordisk

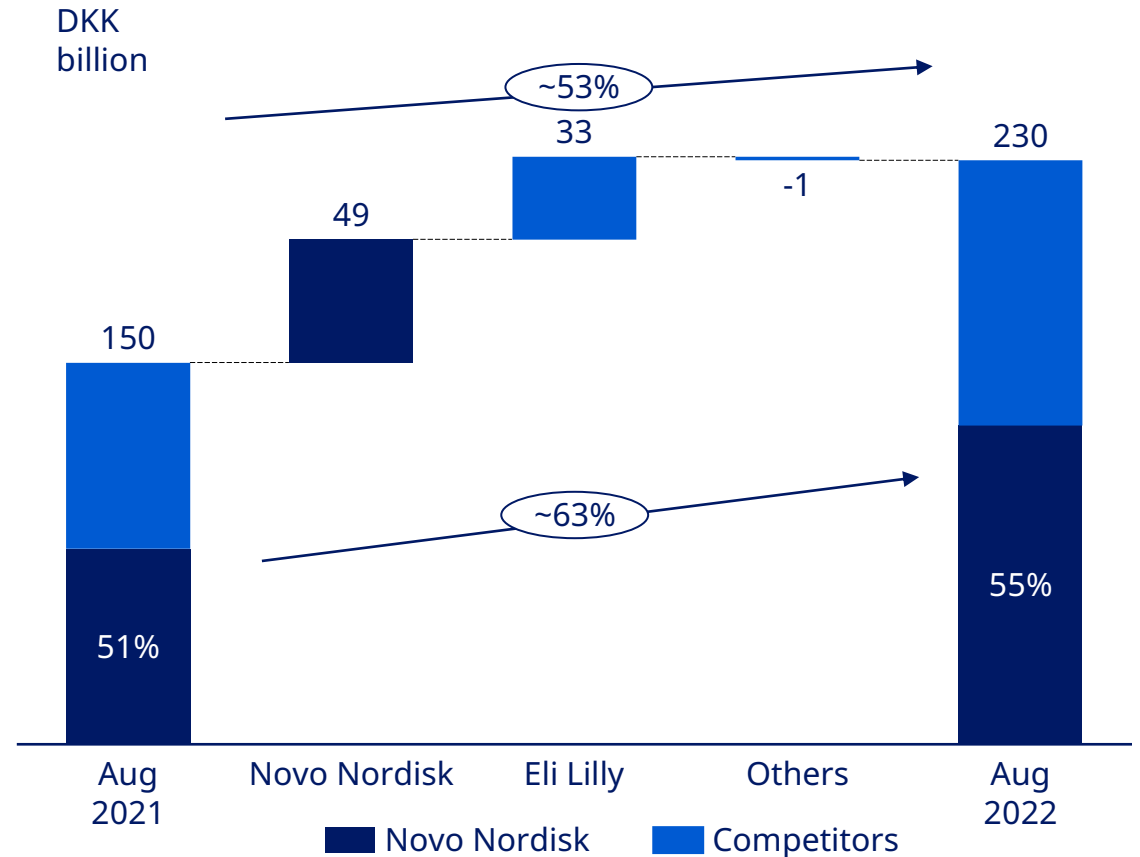


# GLP-1 market share and market growth in North America Operations

GLP-1 market growth and Novo Nordisk market share



GLP-1 market size and growth



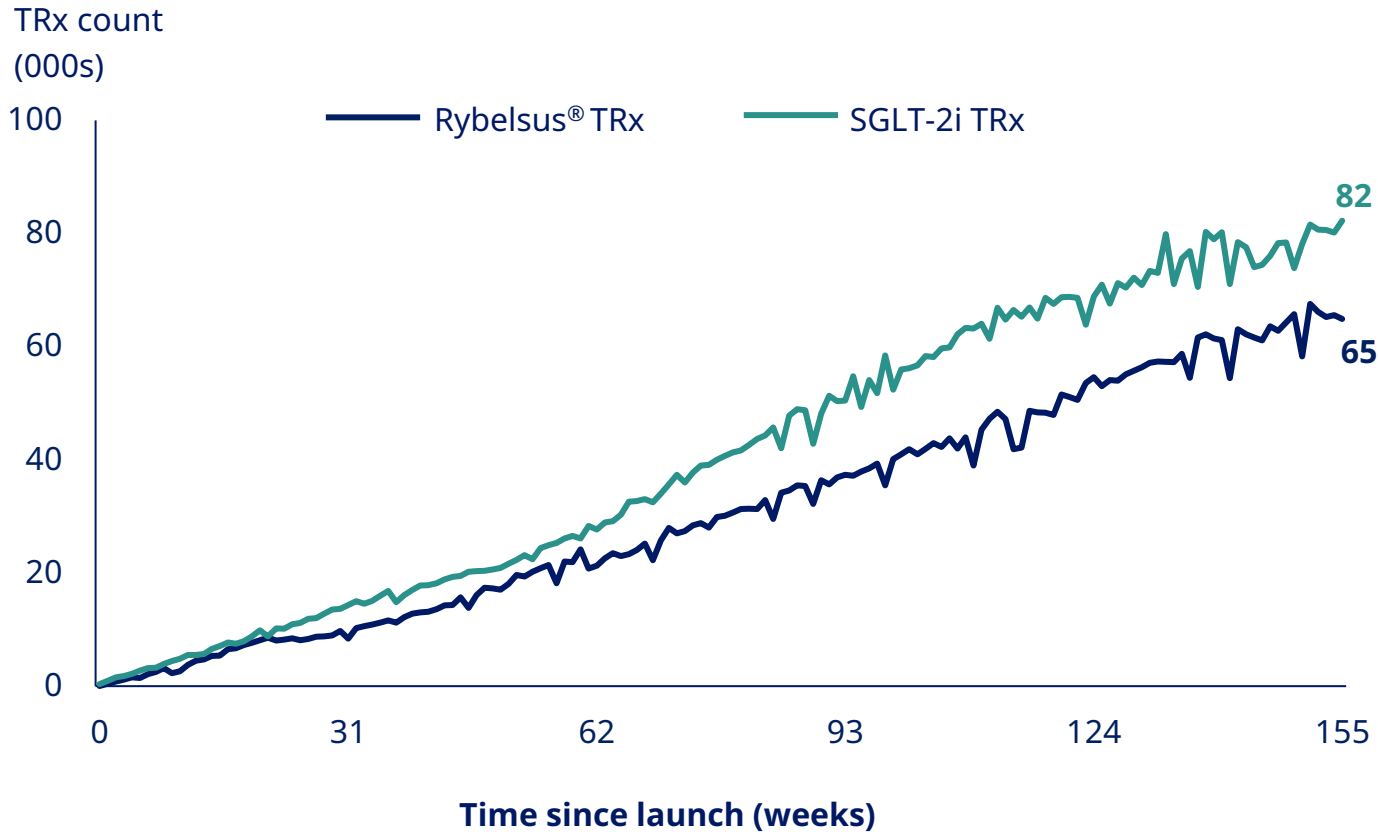
Source: IQVIA, Aug 2022, value, MAT; NN: Novo Nordisk





# Total Rybelsus<sup>®</sup> TRx volume is steadily growing in the US

Rybelsus<sup>®</sup> and SGLT-2i<sup>1</sup> uptake in the US<sup>2</sup> since respective launches



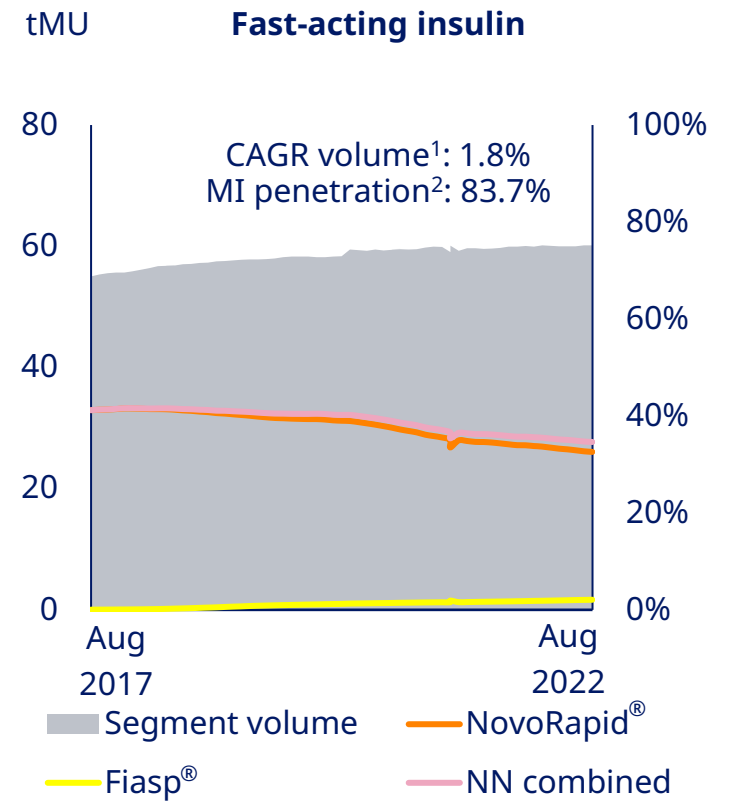
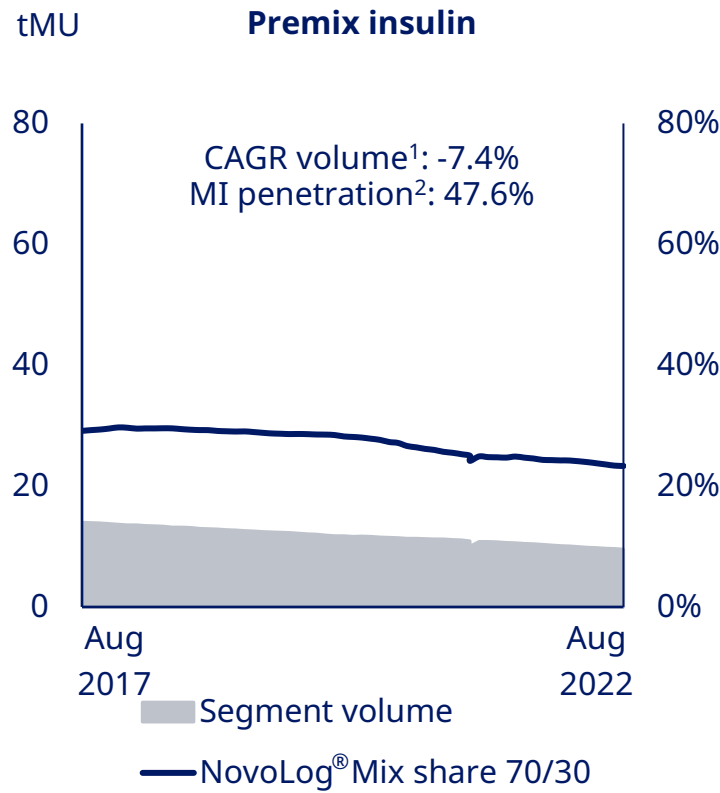
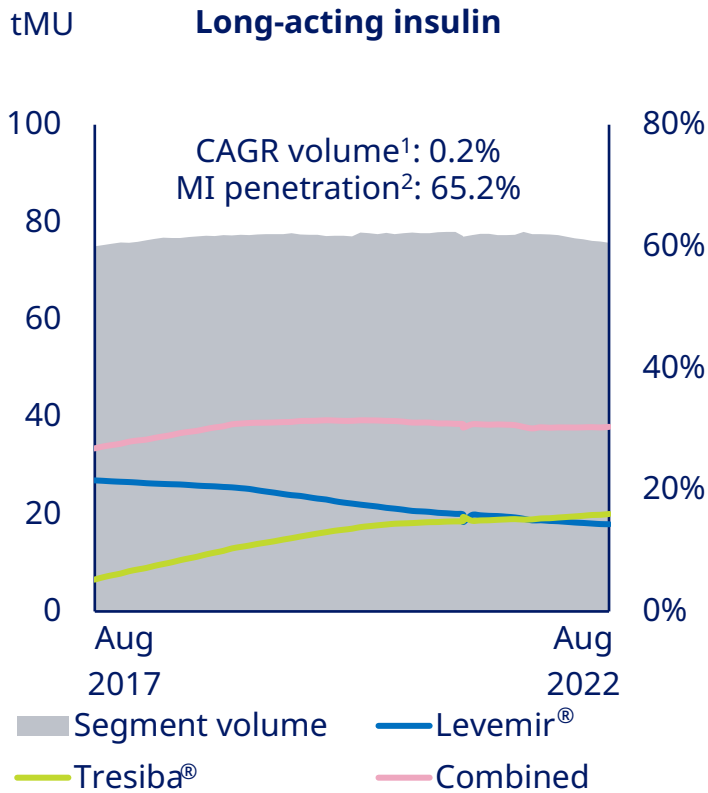
**In first nine months of 2022, Rybelsus<sup>®</sup> sales account for 21% share of growth of NAO sales**

- Successful Rybelsus<sup>®</sup> launch despite COVID-19 impacting the first year of launch
- Rybelsus<sup>®</sup> TRx continues to steadily increase

<sup>1</sup>SGLT-2i is an average of empagliflozin and canagliflozin script count. <sup>2</sup>Rybelsus<sup>®</sup> is based on Oct 2019 focus launch. Each data points represents a rolling four-week average. Note:TRx: Total prescription data; NAO: North America Operations; Source: IQVIA Xponent, Weekly ending 14 Oct 2022



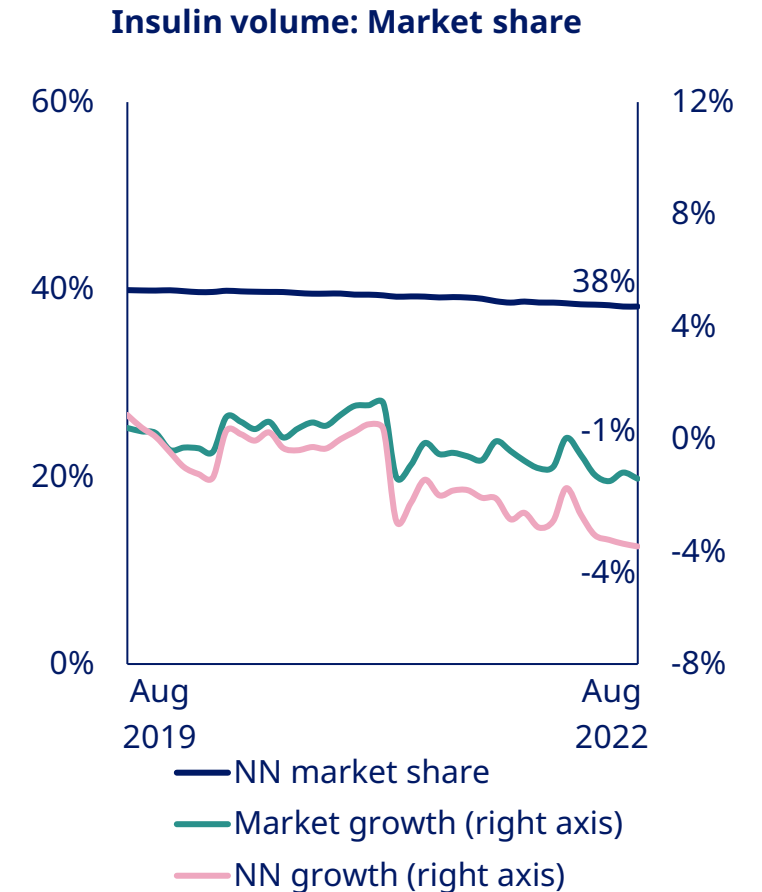
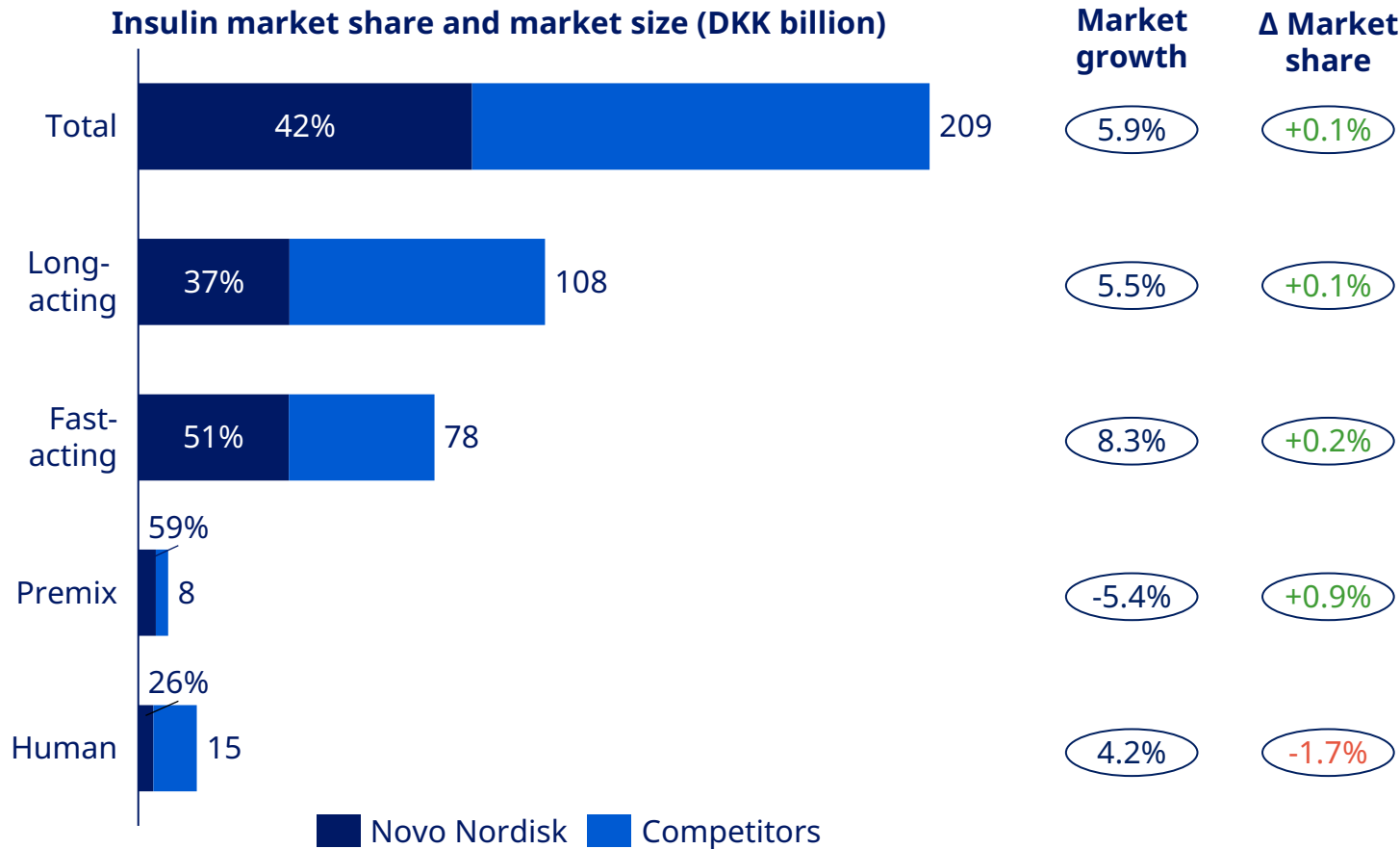
# Novo Nordisk volume market shares in the three insulin segments



<sup>1</sup> CAGR for 5-year period; <sup>2</sup> Includes new-generation insulin. tMU: Thousand mega units  
Source: IQVIA monthly MAT, Aug 2022 volume figures  
NN: Novo Nordisk



# Insulin market size and volume market share in North America Operations

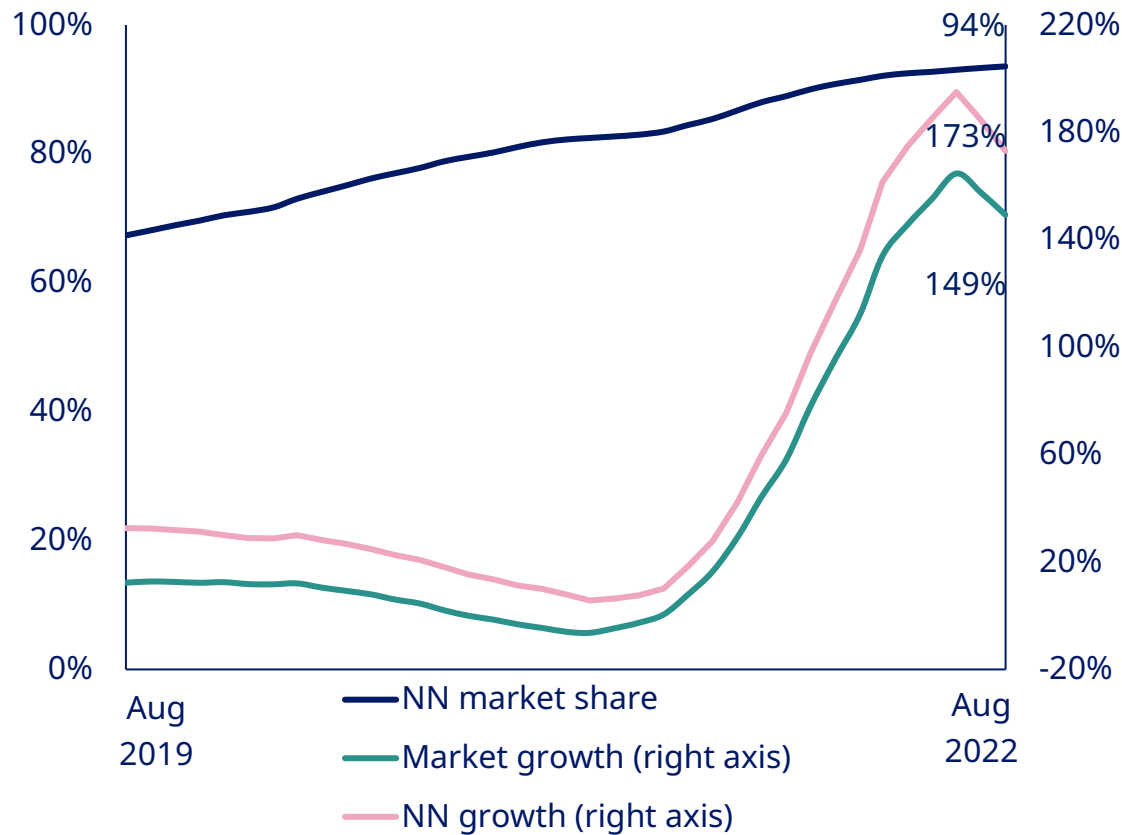


Note: Insulin market numbers do not reflect rebates.  
 Source: IQVIA, Aug 2022, LHS graph – Value, RHS Graph - Volume, MAT, all countries. Share of growth not depicted due to too high numbers; NN: Novo Nordisk

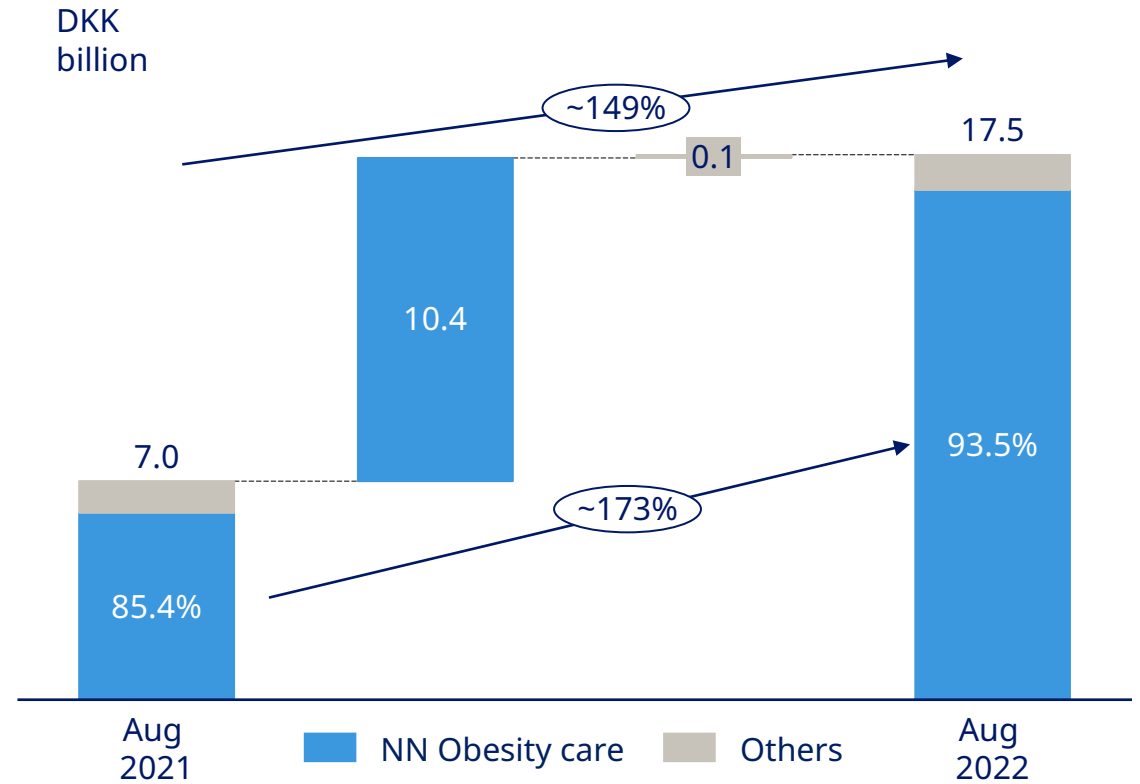


# Obesity market share and market growth in North America Operations

Obesity market growth and Novo Nordisk market share



Obesity market size and growth

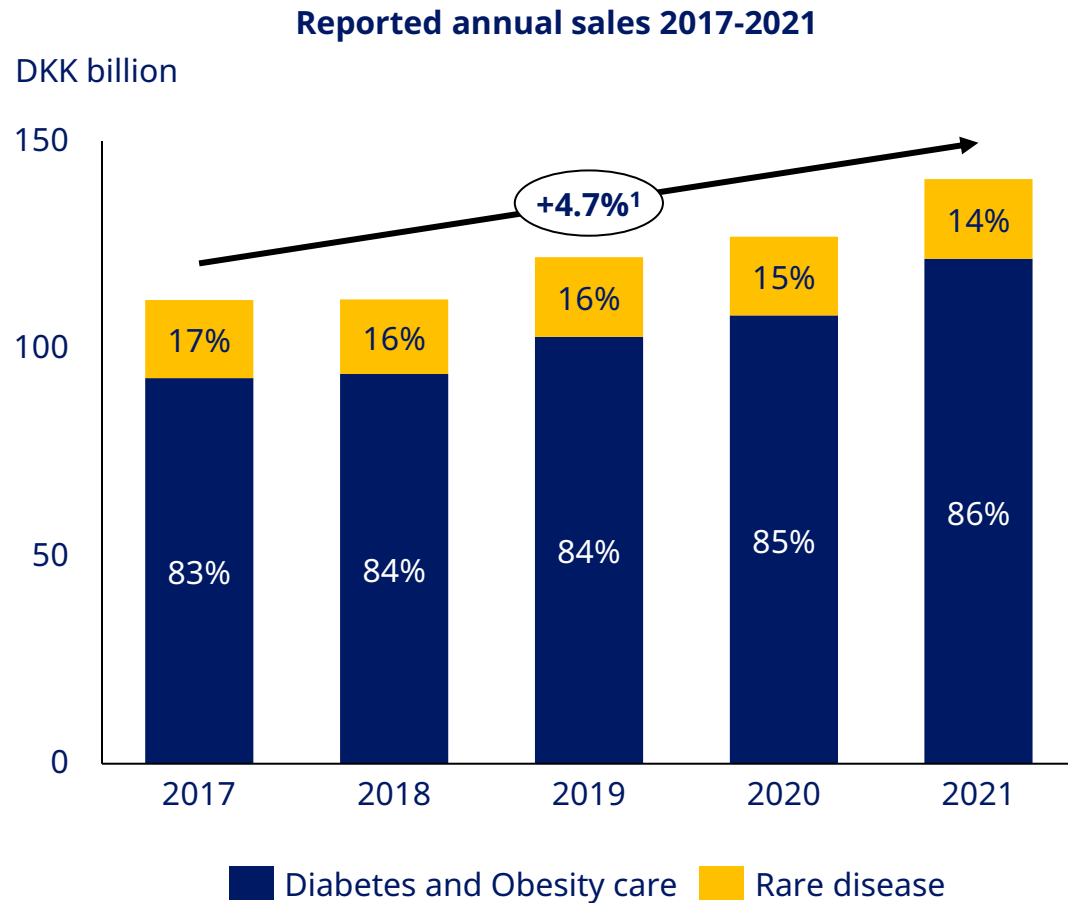


Source: IQVIA, Aug 2022, value, MAT, all countries; Share of growth not depicted due to too high numbers; NN: Novo Nordisk

# Financials

Profit and loss, capital allocation	142
Currencies	148

# Solid sales growth driven by Diabetes and Obesity care



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

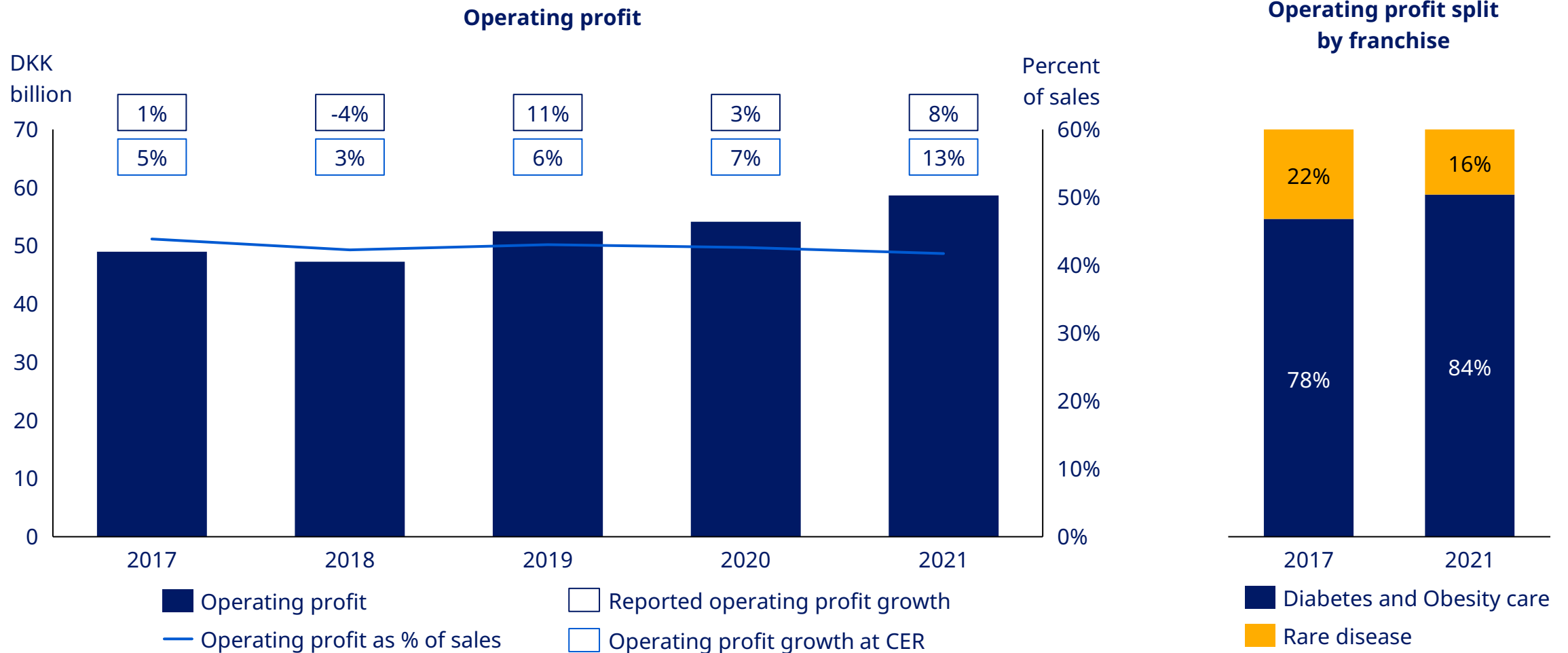
S&D: Sales and distribution; R&D: Research and development

Note: The outlined expected developments are aspirations and not long-term financial targets

**Expected development towards 2025**

	<b>Gross margin</b>	➔	<b>Remain broadly stable</b>
	<b>S&amp;D cost ratio</b>	➔	<b>Gradually decline</b> enabled by attractive sales growth
	<b>R&amp;D cost ratio</b>	➔	<b>Gradually increase</b> to expand and diversify pipeline
	<b>Administration cost ratio</b>	➔	<b>Decline</b> driven by efficiency gains
	<b>Operating margin</b>	➔	<b>Remain broadly stable</b>

# Solid operating profit growth driven by Diabetes care



CER: Constant exchange rates

# Resource allocation in Novo Nordisk is guided by investing in future growth while delivering attractive shareholder returns

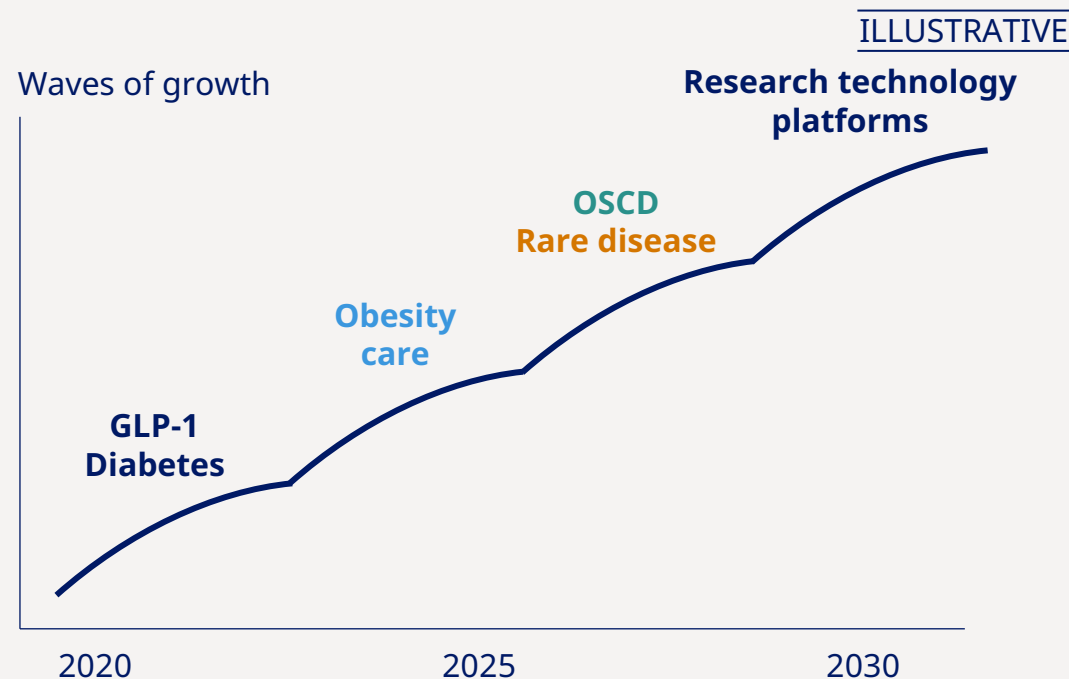
## Corporate strategy guides resource allocation



### Focus on driving sustained sales growth

- **Commercial investments** in growth markets and products
- **R&D investments** in future growth assets

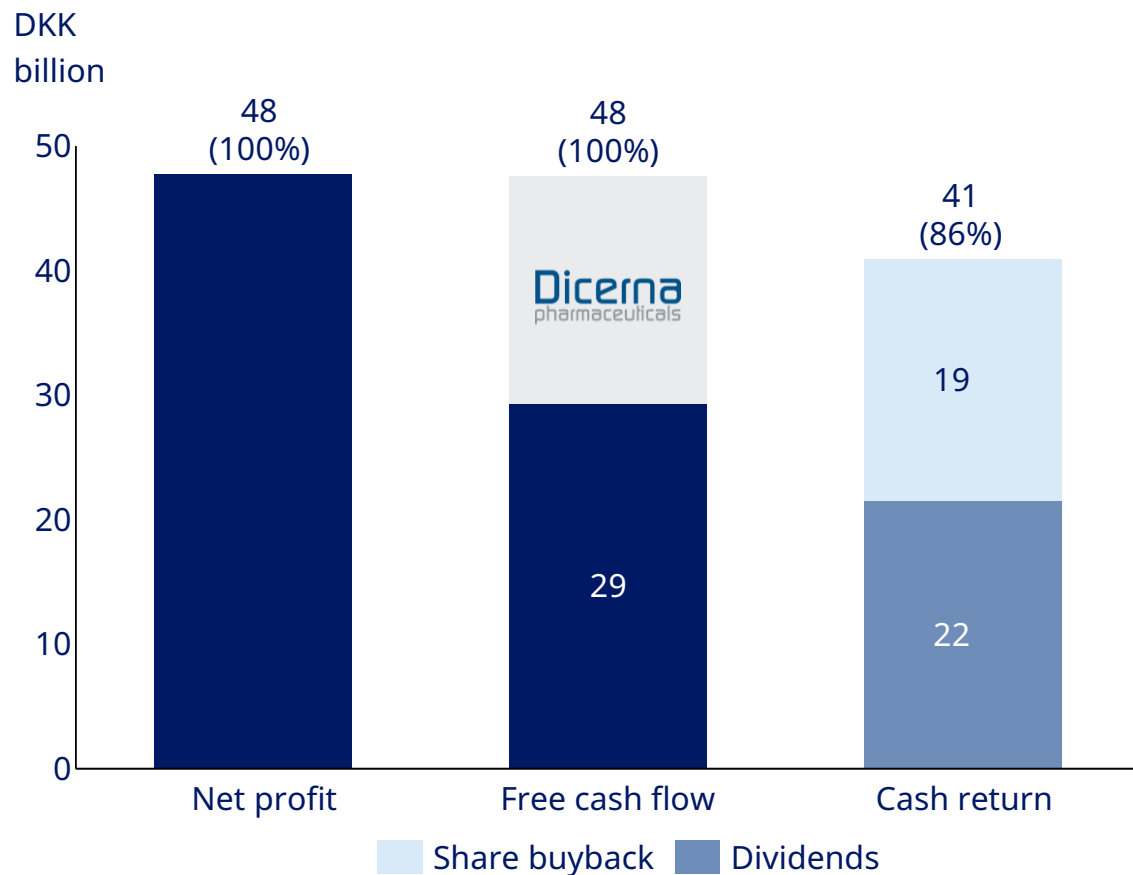
## Expected primary sales growth drivers towards 2030





# Net profit has been converted to cash and returned to shareholders

Cash conversion and allocation (2021)



Strategic capital allocation priorities

**Business development investments to enhance R&D pipeline**  
**CAPEX investments to meet demand including R&D pipeline**

**Deliver competitive capital allocation to shareholders**

- Continued share buybacks and dividends

**Financial flexibility within current credit ratings**

- Moody's: A1 since 2012, S&P Global: AA- since 2013
- Net debt to EBITDA ratio around zero

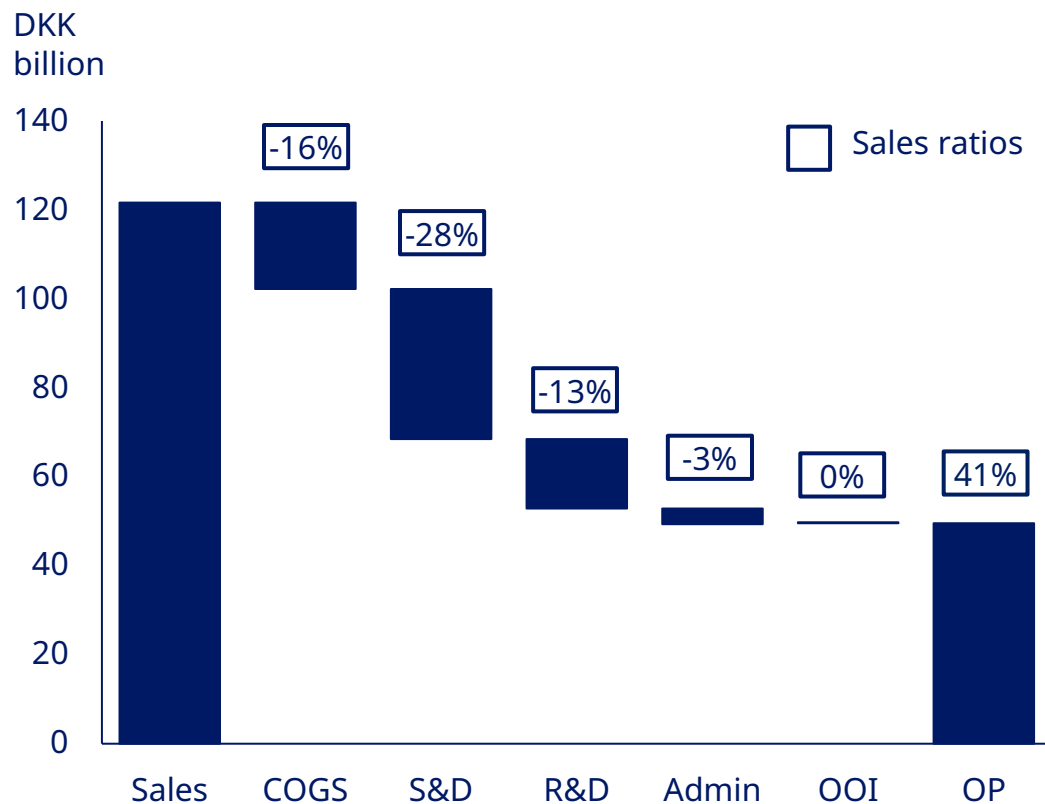
**Mainly debt finance major business development projects**

- 2021 bond issuance at an all-inclusive interest rate of ~0%

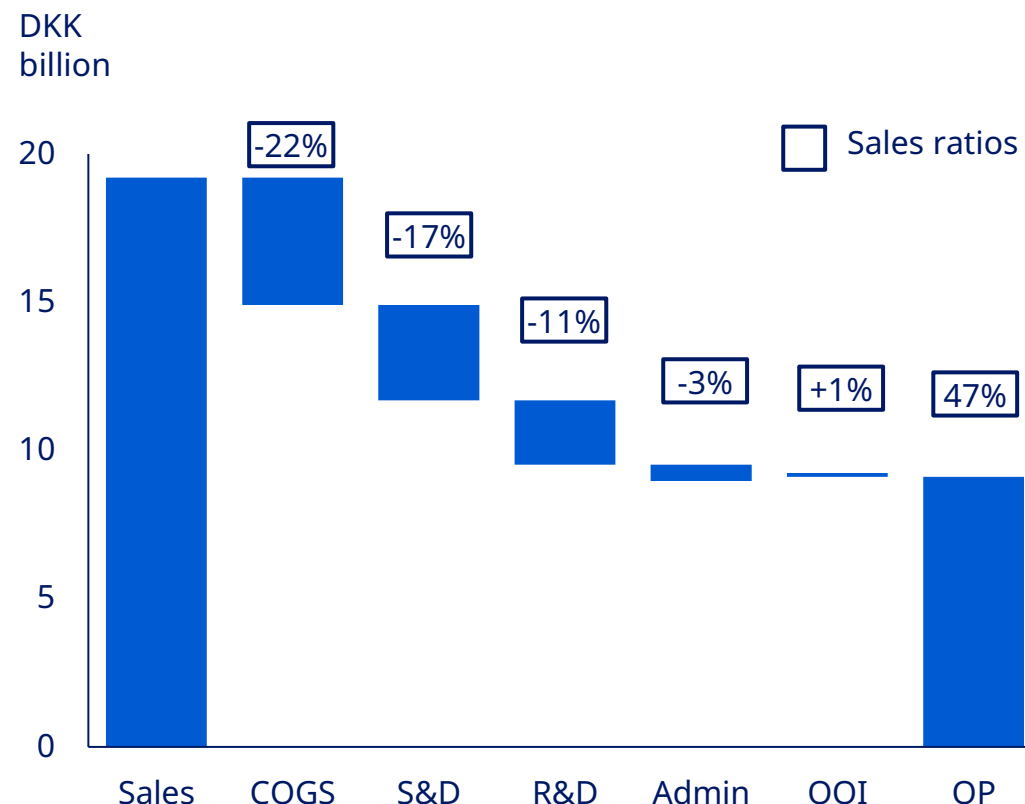
Note: Cash used for the acquisition of Dicerna Pharmaceuticals was 18,282 million DKK per note 5.3 of the 2021 Novo Nordisk Annual Report  
 R&D: Research and Development; CAPEX: Capital expenditure; EBITDA: Earnings before interest, taxes, depreciation and amortisation

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

Diabetes and Obesity care P&L - full year 2021



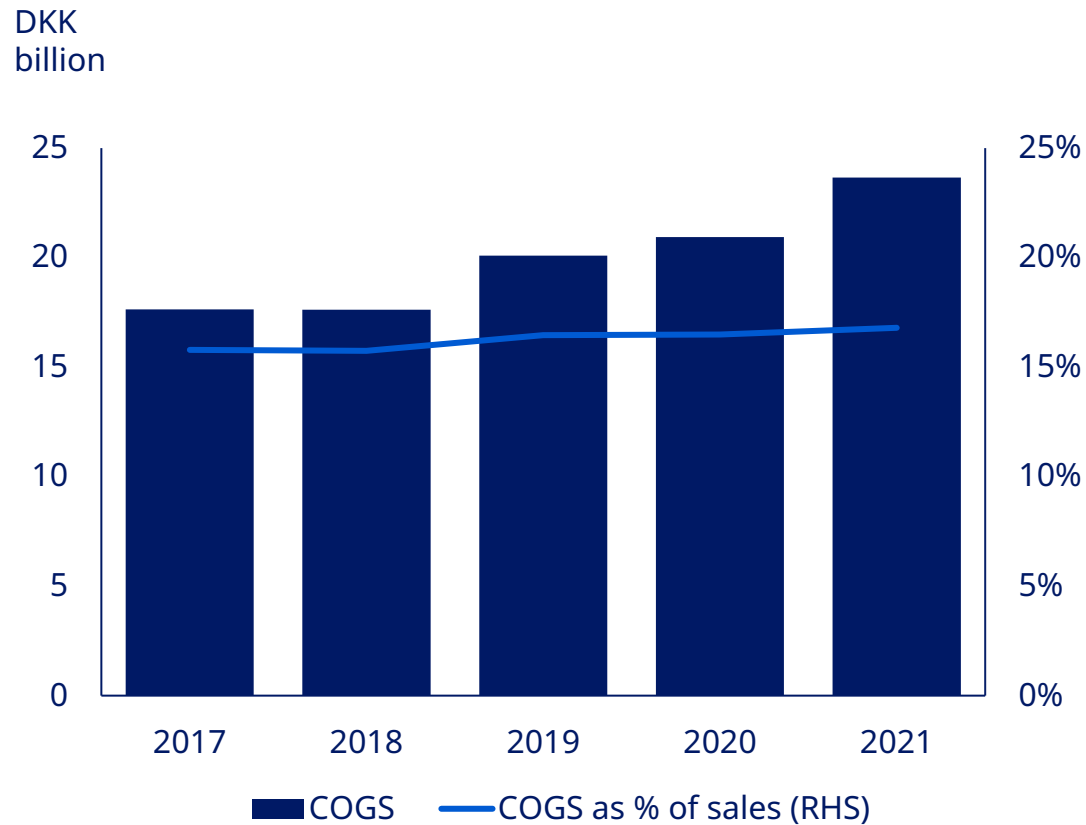
Rare disease P&L - full year 2021



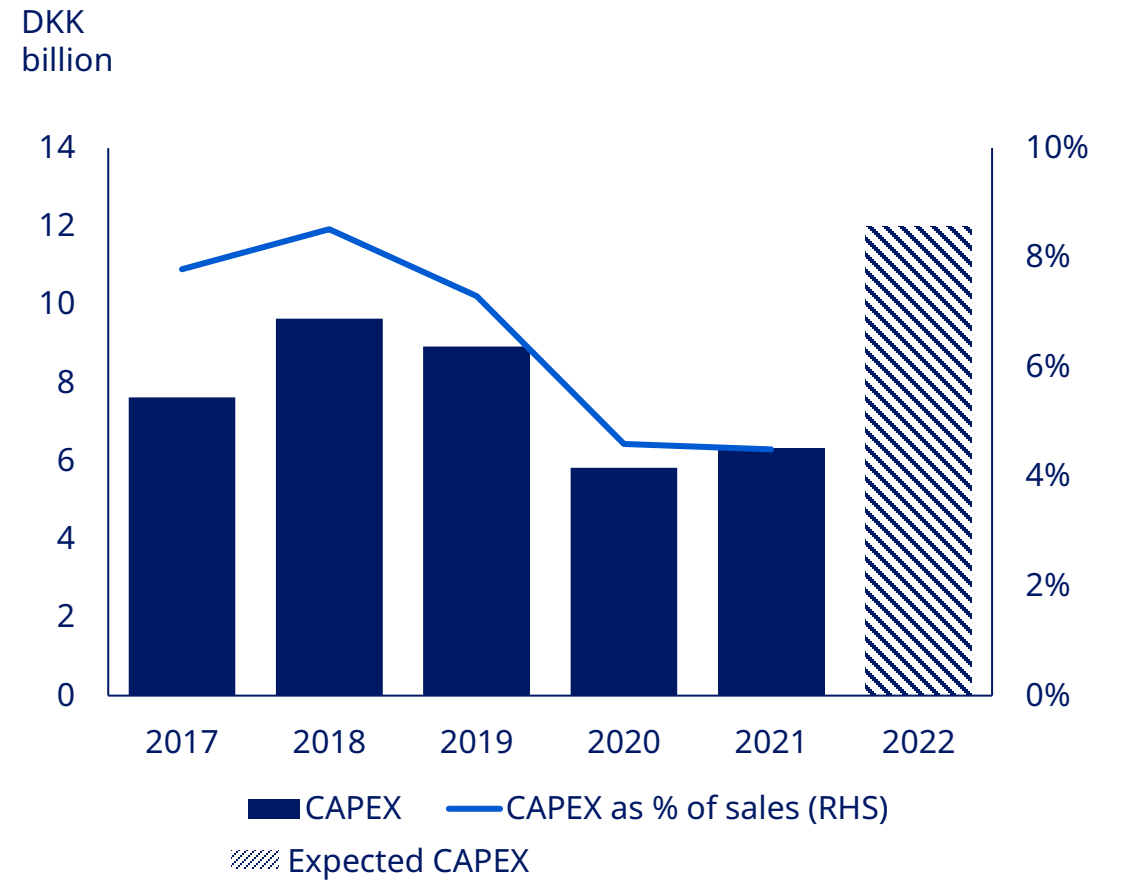
P&L: Profit and Loss; COGS: Cost of goods sold; OOI: Other operating income; OP: Operating profit; S&D: Sales and distribution costs; R&D: Research and development costs; Admin: Administrative costs

# Stable COGS level as percentage of sales

Cost of goods sold



Capital expenditure



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

# Currency impact on Novo Nordisk's P/L

## Operational currency impact

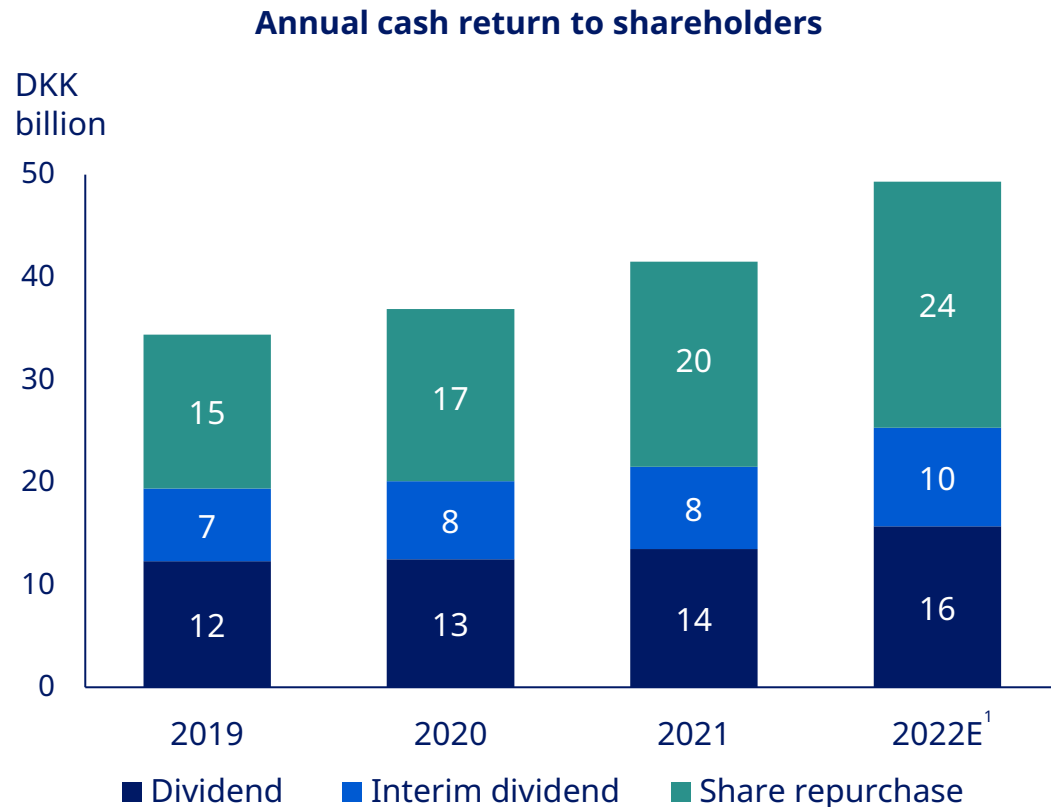
- All movements in currencies will directly impact the individual reported functional lines of the Novo Nordisk's P&L statement
- The currency effect on e.g. operating profit growth is the difference between the reported growth and the operating profit growth at CER
- Key currencies account for around 65-85% of the total currency exposure
- No hedging effects are included in the operating profit
- Sensitivity table gives an indication of gain/loss of a 5% immediate change in exchange rates compared to exchange rates on announcement day

DKK million	2021	2020
<b>Income statement</b>		
Net sales	140,800	126,946
Cost of goods sold	(23,658)	(20,932)
<b>Gross profit</b>	<b>117,142</b>	<b>106,014</b>
Sales and distribution costs	(37,008)	(32,928)
Research and development costs	(17,772)	(15,462)
Administrative costs	(4,050)	(3,958)
Other operating income and expenses	332	460
<b>Operating profit</b>	<b>58,644</b>	<b>54,126</b>
Financial income	2,887	1,628
Financial expenses	(2,451)	(2,624)
<b>Profit before income taxes</b>	<b>59,080</b>	<b>53,130</b>
Income taxes	(11,323)	(10,992)
<b>NET PROFIT</b>	<b>47,757</b>	<b>42,138</b>
Basic earnings per share (DKK)	20.79	18.05
Diluted earnings per share (DKK)	20.74	18.01

## Financial currency impact

- All gain/losses from hedging contracts are included in the financial income/expenses
- All key currencies are hedged:
  - USD 12 months
  - JPY 12 months
  - CAD 9 months
  - GBP 11 months
  - CNY 0 months
- Hedging is primarily performed with the use of forward contracts
- Net financials includes hedging gain/loss including the cost of hedging and the effect from currency gain/losses of balances in non-hedged currencies
- Hedging costs are the interest rate differentials between DKK and hedged currencies

# Attractive capital allocation to shareholders

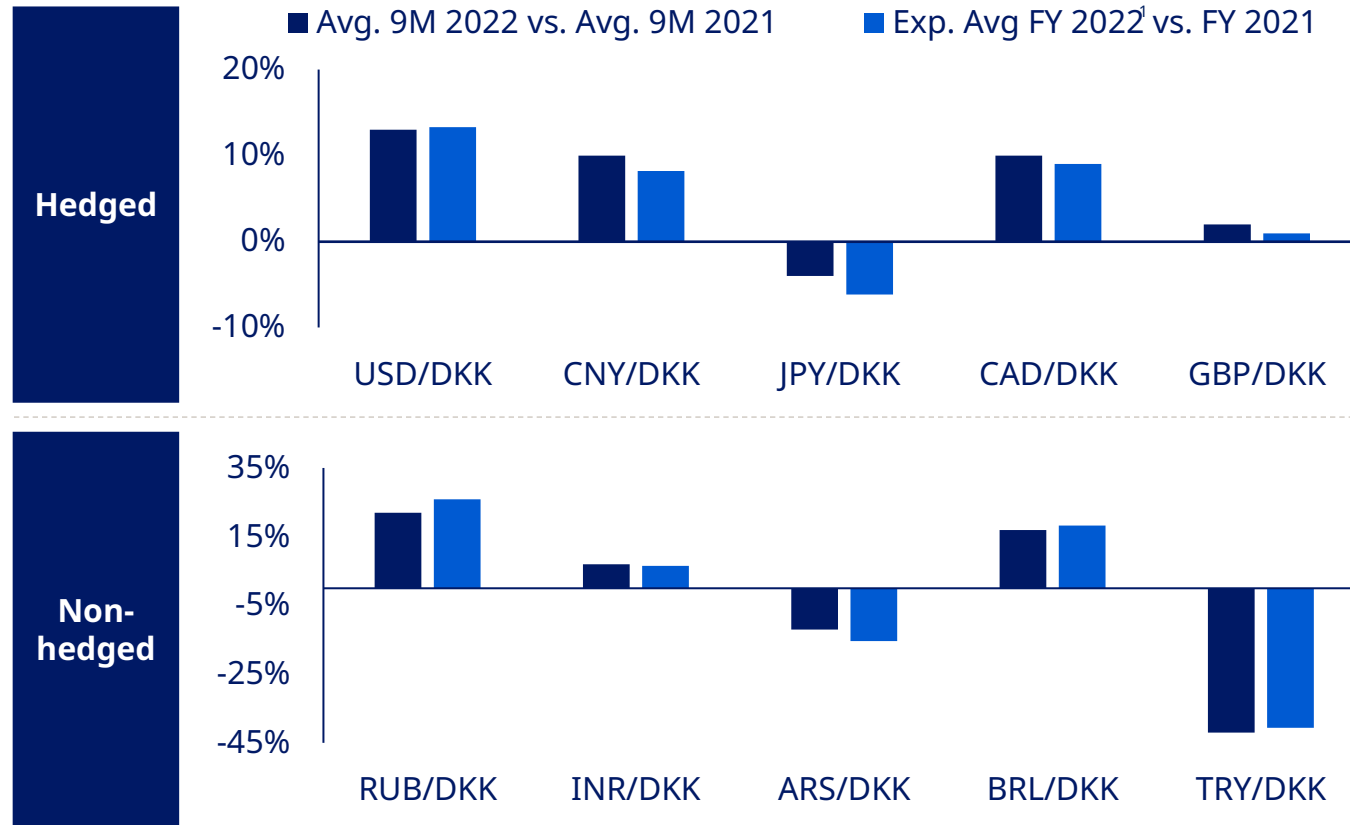


## Capital allocation

- Return of free cash flow through both share buy-backs and dividends
- For 2022, the interim dividend of DKK 4.25 per share was paid in August 2022
- The final dividend for 2022 will be paid in March 2023
- Ongoing DKK 24 billion share repurchase programme for 2022

<sup>1</sup> For 2022, expected free cash flow is DKK 54-59 billion

# Operating profit expected to be positively impacted by currencies in 2022, partly countered by net financials



## 9M 2022

- Positive impact on operating profit of DKK 6.5 billion
- Foreign exchange net loss of DKK 3.9 billion

## FY 2022 outlook

Currency impact on Operating profit is expected to be +15%-points

Net financial items is expected to be a loss of DKK 6.6 billion, of which DKK 5.3 billion is driven by foreign exchange

- Hedging losses mainly driven by the US dollar, reflecting a higher estimated avg. US dollar in 2022 vs FY2021

<sup>1</sup> Year-to-date realised data and remainder expected flat currency development based on the spot rate as of 26 October 2022

USD: United States dollar; DKK: Danish Kroner; CNY: Chinese yuan renminbi; JPY: Japanese yen; CAD: Canadian Dollar; GBP: British pound sterling; RUB: Russian Ruble; INR: Indian rupee; ARS: Argentine Peso; BRL: Brazilian Real; TRY: Turkish New Lira

# Purpose & Sustainability

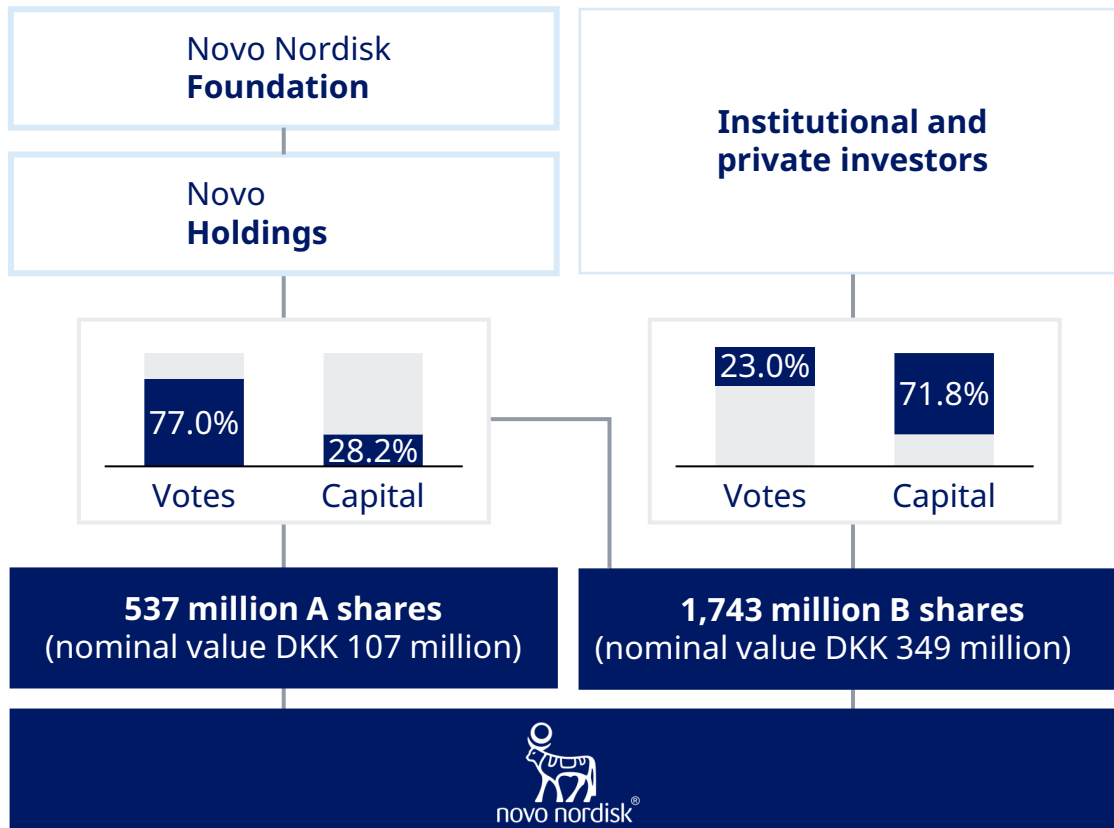
Sustainable business	152
Environmental responsibility	154
Social responsibility	157
Governance	162



RANJITH S.  
Ranjith lives with type 1 diabetes  
India

# Long-term value to society is driven by a strong sense of purpose and by being a responsible business

Foundation ownership enables long-term focus on shared value creation






ESG<sup>1</sup> responsibility has been anchored in Articles of Associations since 2004



<sup>1</sup> Known as the Triple Bottom Line at time of implementation  
ESG: Environmental, Social and Governance



# 2021 statement of ESG performance

	2021	2020	2019	
 <b>Environmental performance</b>	<b>Resources</b>			
	Energy consumption for operations (1,000 GJ)	3,387	3,191	2,993
	Share of renewable power for production sites	100%	100%	76%
	Water consumption for production sites (1,000 m <sup>3</sup> )	3,488	3,368	3,149
	Breaches of environmental regulatory limit values	12	15	16
	<b>Emissions and waste</b>			
CO <sub>2</sub> emissions from operations and transportation (1,000 tonnes)	174	170	306	
Waste from production sites (1,000 tonnes)	181	141	124	
 <b>Social performance</b>	<b>Patients</b>			
	Patients reached with Novo Nordisk's Diabetes care products (est. in millions)	34.6	32.8	30.0
	- Hereof reached via the Novo Nordisk Access to Insulin Commitment (est. in millions) <sup>1</sup>	1.7	3.2	2.9
	- Hereof children reached through Changing Diabetes in Children (cumulative)	31,846	28,296	25,695
	<b>Societies</b>			
	Total tax contribution (DKK million)	32,593	26,376	27,527
	Donations and other contributions (DKK million)	92	158	105
	<b>People &amp; Employees</b>			
	Employees (total)	48,478	45,323	43,258
	Employee turnover	11.0%	7.9%	11.4%
	Employee engagement <sup>2</sup>	84%	N/A	N/A
Frequency of occupational accidents (number per million working hours)	1.3	1.3	2.2	
Gender in mgmt. (ratio men:women)	57:43	59:41	60:40	
Gender in senior mgmt. (ratio men:women)	64:36	65:35	67:33	
Gender in Board of Directors (ratio men:women)	67:33	62:38	62:38	
 <b>Governance Performance</b>	<b>Governance processes</b>			
	Relevant employees trained in business ethics	98%	99%	99%
	Business ethics reviews	37	32	34
	Supplier audits	253	177	236
	Product recalls	1	0	4
	Failed inspections	0	0	0
	<b>Values and Trust</b>			
	Facilitations of the Novo Nordisk Way	34	26	32
Company reputation (scale 0-100) <sup>3</sup>	82.6	N/A	N/A	
Animals purchased for research	47,879	50,036	49,637	

<sup>1</sup> During 2020, the ceiling price was lowered from USD 4 to USD 3 which affects the comparability of 2021 and prior years. <sup>2</sup> In 2021, the engagement survey was entirely redesigned to support Novo Nordisk's strategic goals. As a result, comparison to previous surveys is not appropriate. <sup>3</sup> Company reputation replaces company trust in order to capture more dimensions of how we are perceived by our external stakeholders. ESG: Environmental, Social and Governance

# With Circular for Zero, Novo Nordisk aspires to have zero environmental impact

## circular FOR zero

### Current environmental impact



**CO<sub>2</sub> emissions**  
174,000 tonnes in scope  
1, 2, 3 (2021)<sup>1</sup>



**Waste**  
600+ million prefilled  
plastic pens produced  
every year



**Resources**  
Everything Novo  
Nordisk purchases

### Environmental aspirations



#### Circular products

Upgrade existing and design new products based on circular principles and solve the end-of-life product waste challenge to close the resource loop



#### Circular company

Eliminate environmental footprint from operations and drive a circular transition across the company aspiring for zero environmental impact



#### Circular supply

Proactive collaboration with suppliers to embed circular thinking for reduced environmental impact across the value chain and switch towards circular sourcing and procurement

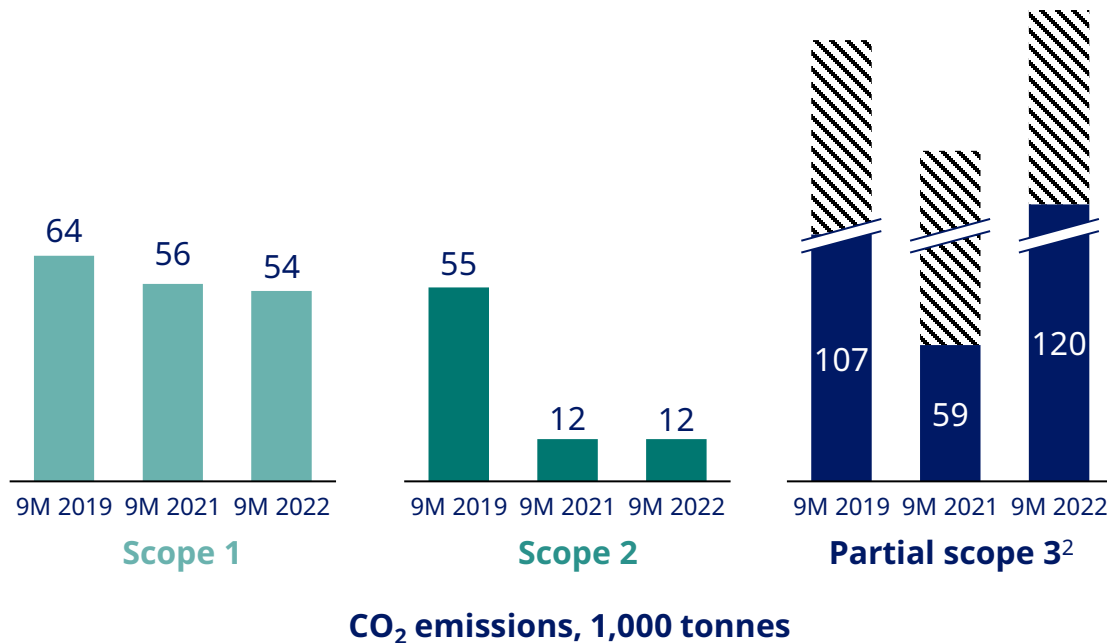
<sup>1</sup>Novo Nordisk's reporting of scope 3 emissions is currently limited to product distribution and business flights. This means that the data shown do not include a significant proportion of the scope 3 emission from our value chain

# Novo Nordisk pledges to reach net-zero emissions across the entire value chain by 2045

## Reporting CO<sub>2</sub> emissions across scopes in the Company Announcement 9M 2022

9M 2019 total: 227t  
 9M 2021 total: 127t  
 9M 2022 total: 186t

18%  
 vs. 9M 2019<sup>1</sup> ↓



## Key initiatives to reduce CO<sub>2</sub> emissions across all three scopes

### Scope 1 - Direct emissions from own sources (16% reduction<sup>1</sup>)

- **Company cars:** Target of 100% electric or plug-in hybrid electric cars by 2030

### Scope 2 - Indirect emissions from purchased energy (78% reduction<sup>1</sup>)

- **Production:** Sourcing 100% of renewable power at sites since 2020

### Partial scope 3 - Other emissions across value chain (12% increase<sup>1</sup>)

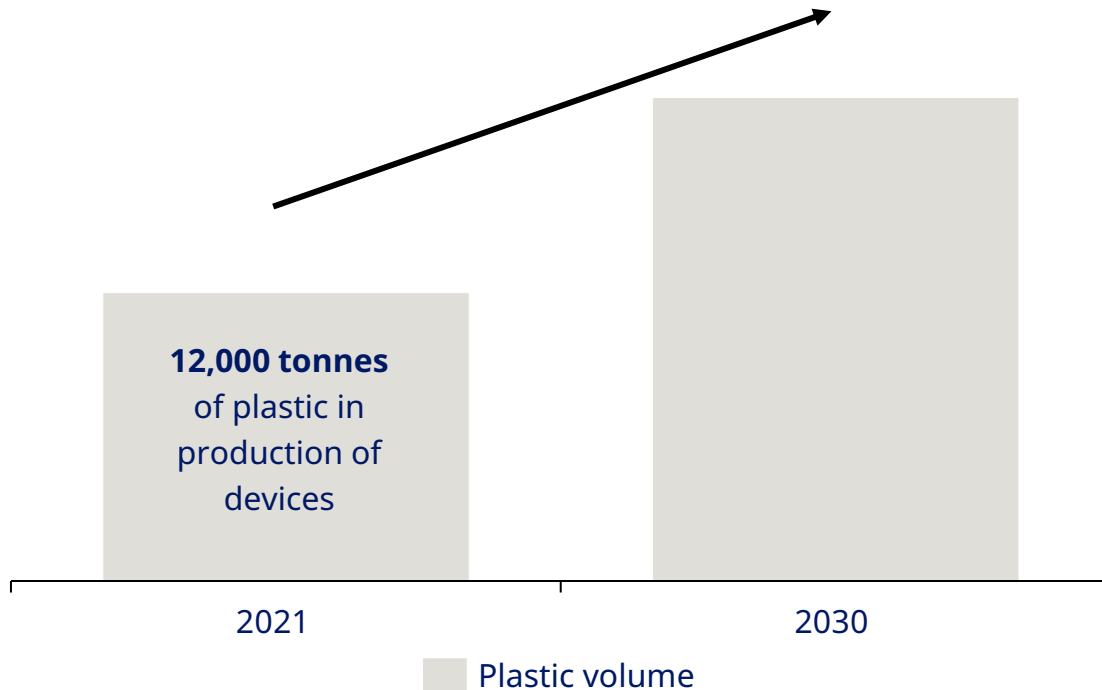
- **Suppliers:** Commitment from direct suppliers to use renewable power
- **Product distribution:** Partnership with Mærsk using biofuel and partnership with Kuehne+Nagel (2022) and SkyNRG (2025) using Sustainable Aviation Fuel when transporting Novo Nordisk products

<sup>1</sup>2019 used as baseline across the scopes given the impact of COVID-19 in 2020. <sup>2</sup>Novo Nordisk's reporting of Scope 3 emissions is currently limited to product distribution and business flights implying that the data shown do not include a significant proportion of Scope 3 emissions from Novo Nordisk's supply chain.

# Reaching more patients will increase the plastic footprint, a challenge Novo Nordisk has started to address

## Growing volumes impact Novo Nordisk's plastic footprint

ILLUSTRATIVE



### Change to sustainable plastic

- Engage with suppliers to pursue shift to **sustainable plastic**
- Drive innovation via **partnerships** to e.g. re-purpose medical waste



### Reduce plastic consumption

- Drive **portfolio decisions** towards lower plastic consumption
- Drive switch towards **durable devices** in relevant markets



### Avoid plastic waste on landfill

- **Take-back<sup>1</sup>** pilot in Denmark with partners leading to >20% device return
- **Take-back** expansion to UK, Brazil and France with ambition to establish industry solution for scaling



<sup>1</sup> More information on the pilot called "Returpen™" can be found here: [Returpen.dk](https://www.novonordisk.com/returpen)

# Social responsibility is core to Novo Nordisk and initiatives focus on prevention, access and innovation



...accelerating **prevention** to bend the curve...



...providing **access to affordable** care for vulnerable patients in every country...

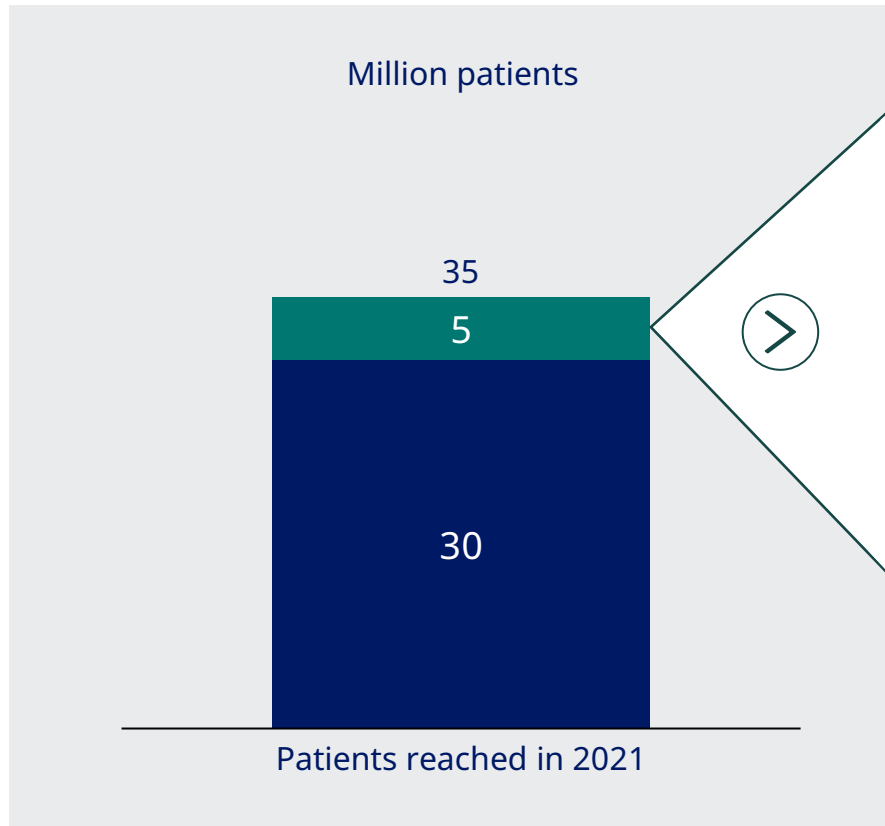


...**innovating** to improve lives...

... and thereby help society rise to one of its biggest challenges

# In 2021, more than 5 million people with diabetes were reached with affordability programmes

**5 out of 35 million people were reached with access and affordability efforts**



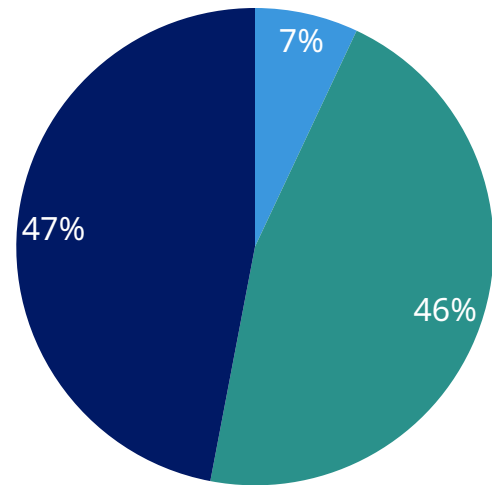
**A number of focused programmes (as of full year 2021)**

<b>Access to Insulin Commitment</b>	<ul style="list-style-type: none"> <li>• 3 USD ceiling price for human insulin vial offered to 76 low- and middle-income countries, reaching +1.7m patients in 2021</li> <li>• 2.2m patients reached at or below the ceiling price in countries outside the commitment<sup>1</sup></li> </ul>
<b>Changing Diabetes® in Children</b>	<ul style="list-style-type: none"> <li>• Providing care for children living with type 1 diabetes</li> <li>• ~33k children reached across 23 countries with goal of reaching 100,000 in 2030</li> </ul>
<b>Vulnerability assessments</b>	<ul style="list-style-type: none"> <li>• Ensure availability of affordable insulin for vulnerable patients</li> <li>• Tailored affordability plans reaching +82k patients as of 2021 based on assessments conducted locally in 67 countries</li> </ul>
<b>US affordability offerings</b>	<ul style="list-style-type: none"> <li>• Suite of affordability offerings including unbranded biologics, My \$99 insulin and more</li> <li>• In 2021, ~1m vulnerable patients reached with insulin</li> </ul>

<sup>1</sup> The access and affordability programmes are not mutually exclusive, implying that the sum of the reach of each programme cannot be interpreted as the total unique number of people with diabetes reached. More info on Novo Nordisk access and affordability programmes can be found at : [Access & affordability \(novonordisk.com\)](https://www.novonordisk.com/access-affordability). Changing Diabetes® in Children is a public-private partnership between the International Society for Paediatric and Adolescent Diabetes, the World Diabetes Foundation, Roche, and Novo Nordisk. Changing Diabetes® in Children numbers are for Q1 2022, while all other numbers are for FY2021. M: Millions; K: thousands

# In the US, net prices have declined in the last five years

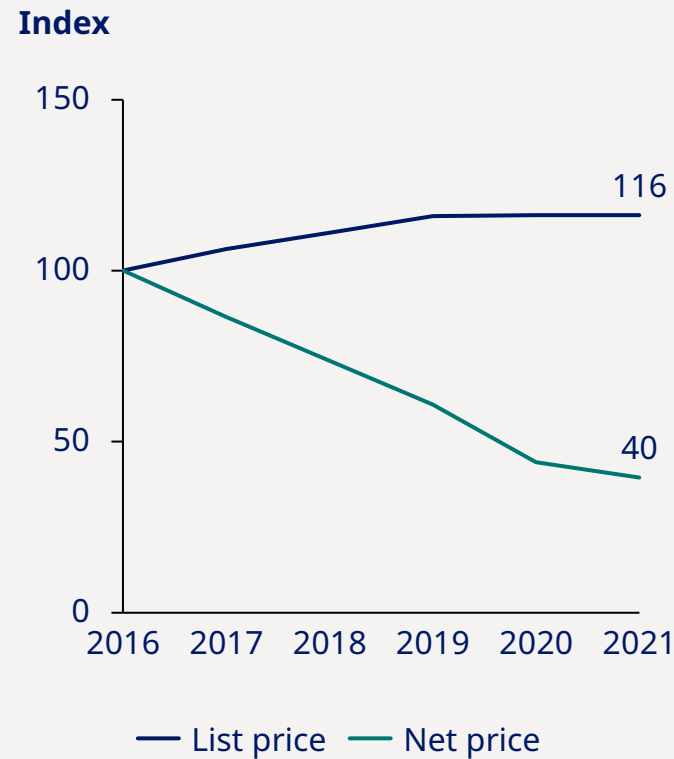
The US population by health insurance coverage



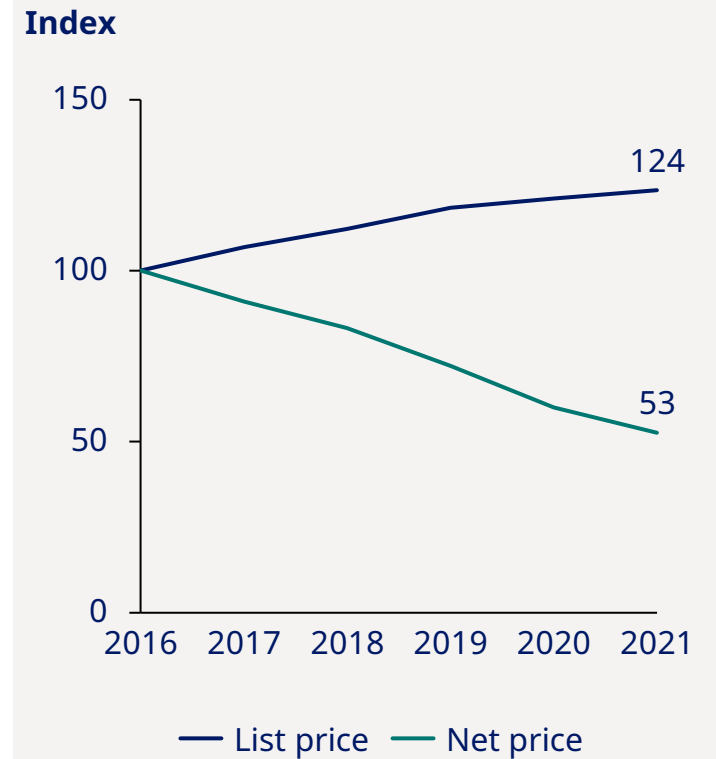
333 million people

- Uninsured
- Private insurance schemes
- Government insurance schemes

Insulin net prices<sup>1</sup> have declined



Net prices<sup>1</sup> across the full Novo Nordisk portfolio<sup>2</sup> declined



<sup>1</sup>Percentage change represents a sales weighted average list and net price for the respective calendar year compared to the sales weighted average list and net price for the prior year and is not reflective of the magnitude of individual list price actions <sup>2</sup>NN US Product Portfolio is inclusive of Diabetes, Obesity and Rare disease products  
 Government insurance schemes cover Medicare, Medicaid and public exchanges, some of these with high deductibles.  
 Source: Centres for Medicare and Medicaid services, office of the actuary, National Health expenditures Projections

# Barriers to access go beyond price

## Diabetes Compass launched with World Diabetes Foundation

- Many healthcare systems in LMICs are overburdened
- Aims to reduce vulnerabilities through **innovative digital solutions** to support health workers and people with diabetes
- Pilots in **Sri Lanka** and **Tanzania** have been launched
- Roll-out of digital products expected to begin in Q1 2023



## Thermal solution for human insulin can address one key access to care barrier

- Strict **insulin storage recommendations** are hard to meet in humanitarian settings and where access to refrigeration is low
- The **positive scientific opinion** received from EMA in April supports obtaining the national approvals for additional option for storage outside of refrigeration prior to first use
- **National submission ongoing** in >50 countries, e.g. submitted in India and Bangladesh in July 2022



## iCare initiative towards strengthening health infrastructure in Middle Africa

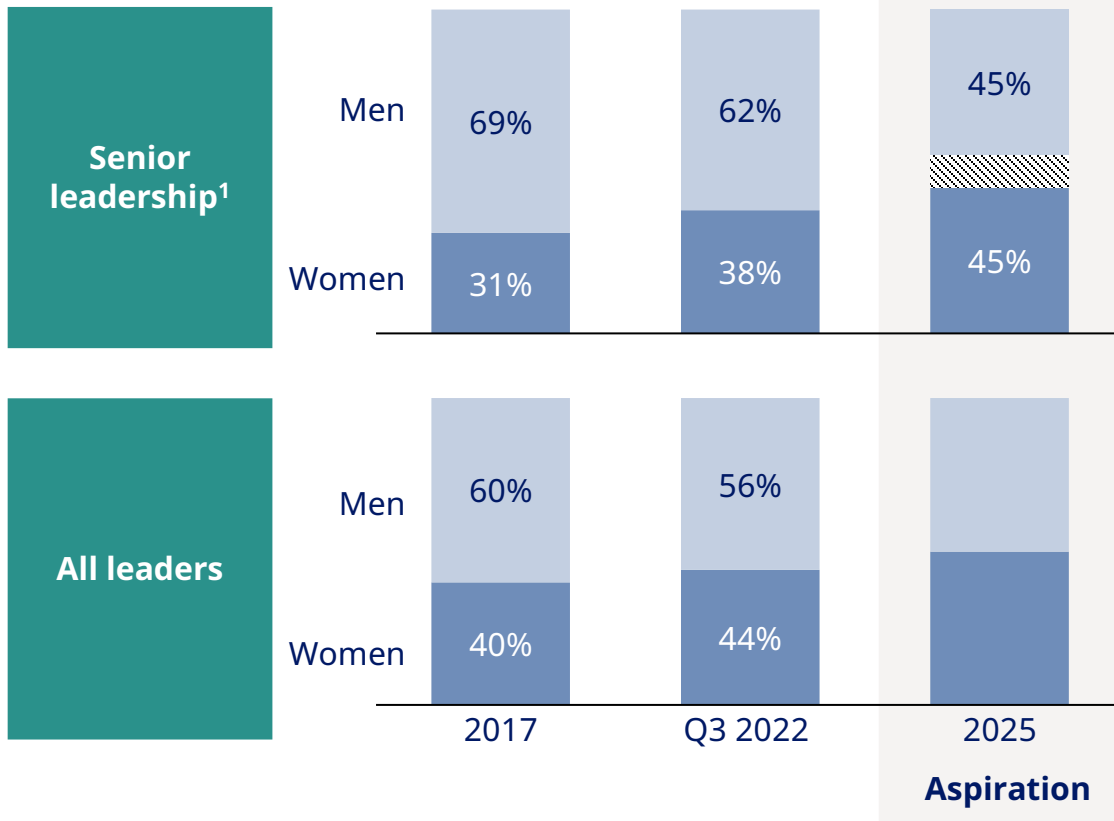
- A business-integrated model improving access to treatment and care
- **Capacity:** 6,300 HCPs trained
- **Affordability:** 32,300 underserved patients reached with insulin
- **Reach:** Onboarded new distributors to reduce mark-ups
- **Empowerment:** 10,900 patients enrolled in patient empowerment programmes





# The journey towards being a sustainable employer starts with being inclusive and diverse

## 2025 aspiration supporting Diversity and Inclusion



## Driving an inclusive and diverse workplace

### Diversity & Inclusion aspirational targets:

- Create an inclusive culture where all employees have a sense of belonging and equitable opportunities to realise their potential
- Achieve a balanced gender representation across all managerial levels
- Achieve a minimum of 45% women and a minimum of 45% men in senior leadership positions by the end of 2025

### Diversity & Inclusion aspirations in action:

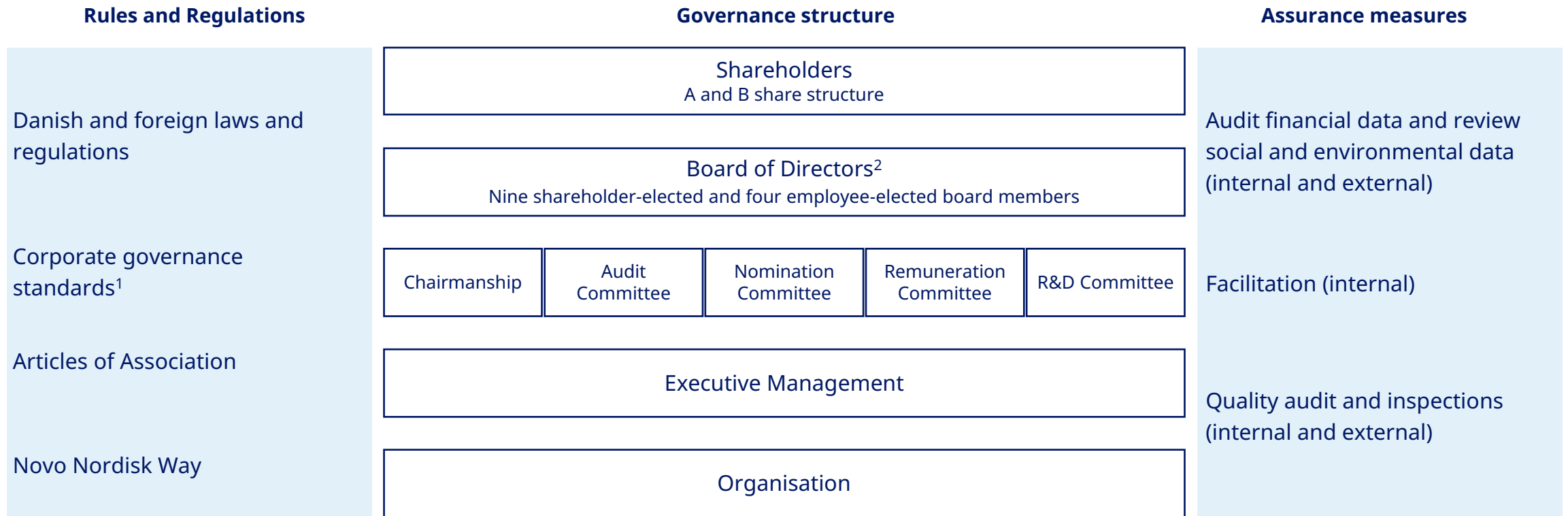
- D&I is continuously embedded in HR processes and policies across the employee life cycle
- All areas have local D&I action plans to address local challenges and opportunities
- All leaders must embrace their role as inclusive leaders

### Diversity & Inclusion progress:

- Inclusion Index has increased from 78% in 2021 to 82% in 2022
- End of Q3 2022 38% of leaders in senior leadership positions were women, compared to 36% end of Q3 2021

<sup>1</sup> Senior leadership defined as executive vice presidents, senior vice presidents, corporate vice presidents, and vice presidents; D&I: Diversity and inclusion  
 Note: Full social statements to be found in Novo Nordisk Annual Report 2021. No formulated 2025 aspiration exist for "all leaders", but Novo Nordisk aspires for balanced gender representation at all managerial levels

# Structure in place to ensure corporate governance



<sup>1</sup> The corporate governance standards designated by Nasdaq Copenhagen and New York Stock Exchange

<sup>2</sup> In 2021, the Board of Directors met eleven times

# Novo Nordisk has a sustainable tax approach

## Sustainable tax approach approved by the BoD

### 1 | Commercially driven

- Business structures driven by commercial considerations
- Pay taxes where value is generated
- Effective tax rate of 20 – 22% for 2022

### 2 | Responsible

- No artificial structures or tax havens
- Transfer pricing principles compliant with OECD guidelines
- Advanced pricing agreements covering >65% of revenues

### 3 | Transparent

- Open about tax practices and maintain cooperative relationships with tax authorities
- Tax approach published on novonordisk.com
- Total tax contribution in 2020 around DKK 32 billion

## Corporate income taxes by region – three year average in DKK billion

Region	IP rights <sup>1</sup>	Production <sup>2</sup>	Sales <sup>3</sup>	Corporate income taxes
<b>International Operations</b>				<b>9.3</b>
- Denmark				8.0
- EMEA (excl. Denmark)				0.6
- Region China				0.4
- Rest of World				0.3
<b>North America Operations</b>				<b>1.3</b>
- The US				1.2
<b>Total</b>				<b>10.6</b>

Share of category

<sup>1</sup> Intellectual property rights based on sales from where intellectual property rights are located, <sup>2</sup> Production based on production employees in the region, <sup>3</sup> Sales based on the location of the customer.

OECD: The Organisation for Economic Co-operation and Development

Note: All figures and graphs are average 2019-2021

# ESG is integrated in reporting and remuneration as well as recognised externally

**ESG is included in integrated reporting and short- and long-term remuneration**



**Reporting on ESG performance is in accordance with disclosure standards**



With Novo Nordisk now fully or partially aligned with 23 of 25 metrics.



**ESG rankings by third-party agencies recognise Novo Nordisk's efforts**

**Rating agency**



AAA
Top 12% in industry group 'pharmaceuticals'
A (Climate) B (Water) CDP Supplier Engagement Leader
Ranked 10 <sup>th</sup> out of 20 companies

# Investor contact information

## Share information

Novo Nordisk's B shares are listed on the stock exchange in Copenhagen under the symbol 'NOVO B'. Its ADRs are listed on the New York Stock Exchange under the symbol 'NVO'.

For further company information, visit Novo Nordisk on:  
[www.novonordisk.com](http://www.novonordisk.com)

Access the full investor presentation here:



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