

Welcome to Capital Markets Day 2017

CAPITALMARKETS DAY 2017

novo nordisk
– a focused
healthcare
company

Welcome and strategy update

Lars Fruergaard Jørgensen
President and CEO



Forward-looking statements

Novo Nordisk's reports filed with or furnished to the US Securities and Exchange Commission (SEC), including the company's Annual Report 2016 and Form 20-F, which are both filed with the SEC in February 2017 in continuation of the publication of the Annual Report 2016, and written information released, or oral statements made, to the public in the future by or on behalf of Novo Nordisk, may contain forward-looking statements. Words such as 'believe', 'expect', 'may', 'will', 'plan', 'strategy', 'prospect', 'foresee', 'estimate', 'project', 'anticipate', 'can', 'intend', 'target' and other words and terms of similar meaning in connection with any discussion of future operating or financial performance identify forward-looking statements. Examples of such forward-looking statements include, but are not limited to:

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- Statements containing projections of or targets for revenues, costs, income (or loss), earnings per share, capital expenditures, dividends, capital structure, net financials and other financial measures
- Statements regarding future economic performance, future actions and outcome of contingencies such as legal proceedings, and
- Statements regarding the assumptions underlying or relating to such statements.

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Please also refer to the overview of risk factors in 'Risk Management' on pp 40-43 of the Annual Report 2016.

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Important drug information

- Victoza® (liraglutide 1.2 mg & 1.8 mg) is approved for the management of type 2 diabetes only
- Saxenda® (liraglutide 3 mg) is approved in the US and EU for the treatment of obesity only

Novo Nordisk addresses the significant disease burden of diabetes and obesity through a patient centric mind-set

Significant and growing disease burden within both diabetes and obesity



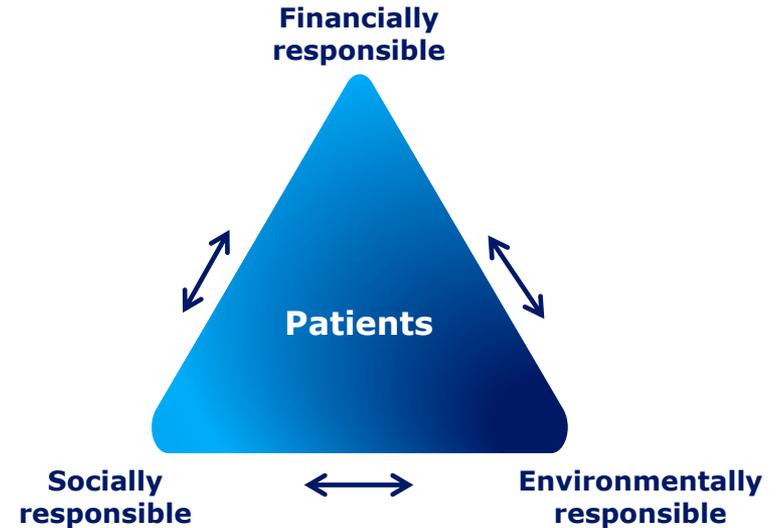
Today, more than **425 million¹** people have **diabetes**

By 2045, it is estimated that **629 million¹** people will have diabetes globally

... and already today, it is estimated that **650 million²** people live with **obesity**



Triple bottom-line supports Novo Nordisk's global responsibility



¹ International Diabetes Federation: Diabetes Atlas 8th Edition 2017; ² WHO, October 2017

Significant R&D and commercial achievements since our Capital Markets Day in November 2015

Strategic priorities	R&D achievements	Commercial achievements
Expand leadership in DIABETES	Filing and successful adcom with semaglutide Fiasp ® and Xultophy ® approved CV data included in Victoza ® label Successful completion of SWITCH/DEVOTE Oral semaglutide phase 3 fully recruited	Tresiba ® launched in 56 countries Xultophy ® launched in 16 countries Ryzodeg ® launched in 14 countries Fiasp ® launched in 8 countries Victoza ® CV label promotion
Strengthen leadership in OBESITY CARE	Semaglutide phase 2 successfully completed Six projects in phase 1 development	Saxenda ® launched in 24 countries Novo Nordisk global market leader
Return to growth in BIOPHARM	Rebinyn ®/ Refixia ® approved in the US/EU Positive phase 3 results with somapacitan Concizumab advanced to phase 2	NovoEight ® launched in 25 countries Refixia ® launched in first EU countries US launch preparation for Rebinyn ®
Expand into other SERIOUS CHRONIC DISEASES	Updated R&D strategy Phase 2 trial initiated with semaglutide in NASH	Victoza ® CV indication introduced to cardiologists
LEADERSHIP/FINANCE	New executive management team and strengthened focus on Biopharm Operations Updated long-term financial targets	

Our strategic priorities remain focused and our core purpose unchanged

STRATEGIC PRIORITIES

Strengthen leadership in
DIABETES CARE

Strengthen leadership in
OBESITY CARE

Pursue leadership in
HAEMOPHILIA

Strengthen leadership in
GROWTH DISORDERS

Expand into other
SERIOUS CHRONIC DISEASES

CORE CAPABILITIES

Engineering, formulating, developing and delivering protein-based treatments

Deep disease understanding

Efficient large-scale production of proteins

Global commercial reach and leader in chronic disease care

Driving change to defeat diabetes and other serious chronic diseases

Novo Nordisk Way

Commercial priorities in place to ensure focus on execution of the global strategy and increase innovation height

Diabetes

Maximise our insulin franchise by focus on value and volume share

- Differentiate new-generation insulin
- Maximise portfolio of insulin
- Innovate patient outcome solutions

Expand the global GLP-1 market and maintain leadership

- Transform treatment
- Increase focus on CV benefits
- Successfully launch semaglutide

Obesity and Biopharm

Build the global obesity market

- Launch Saxenda® globally
- Expand the prescriber base
- Pursue innovation of treatments

Return to growth in Biopharm

- Maximise current portfolio
- Pursue licensing or acquisitions
- Strengthen the organisation

Innovation

Drive commercial innovation

- Pursue digital health opportunities
- Evolve innovative contracting
- Establish Real World Evidence

Innovate and expand patient base

- Raise innovation level in R&D
- Pursue other chronic disease areas
- Increase external innovation search

CV: Cardiovascular



ZIHAO LI AND HIS MOTHER BING HAN, China
Zihao has haemophilia A

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R&D strategy

Mads Krogsgaard Thomsen
EVP and Chief Science Officer



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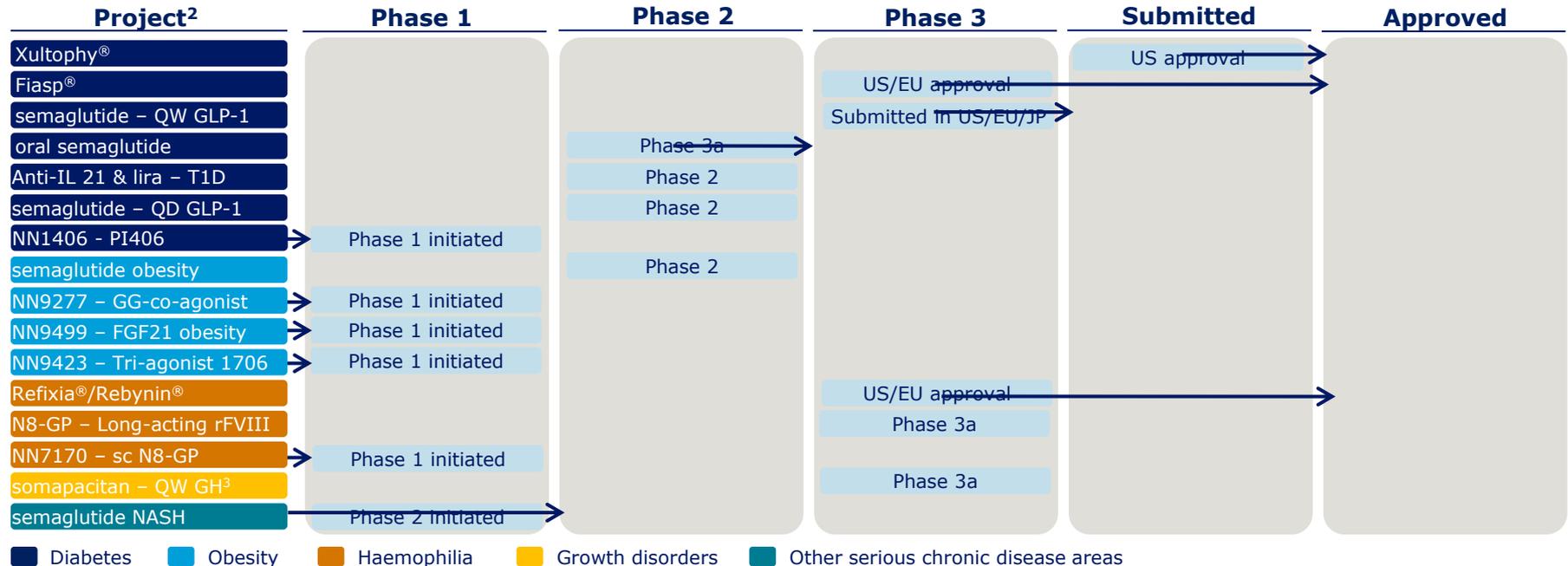
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R&D organisation successfully advanced early and late-stage projects since last Capital Markets Day¹



¹ The last Capital Markets Day took place 17 November 2015

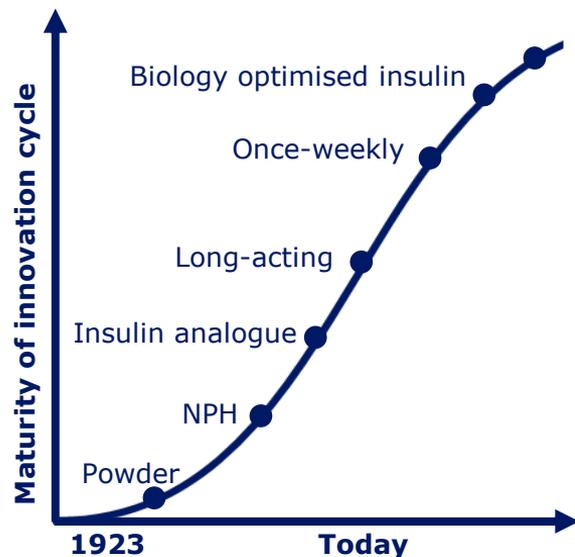
² Projects still in phase 1 (G530L, AM833, PYY1562 and LAI287) or discontinued projects (LATIN, OI338GT and OI320GT oral insulin) are not included

³ Study conducted in adult growth hormone disorder

QW: Once-weekly; Lira: Liraglutide; T1D: Type 1 diabetes; QD: Once-daily; GH: Growth hormone; sc: Subcutaneous; NASH: Non-alcoholic steatohepatitis

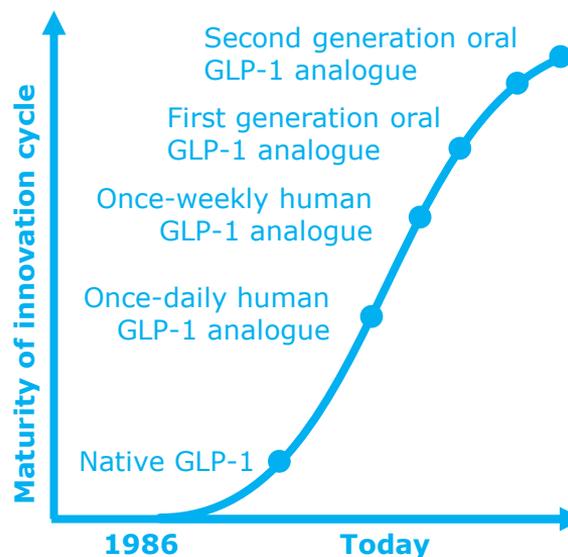
Innovation bar has been raised due to increased maturity of core areas and market access challenges

High level of innovation achieved within basal insulin



NPH: Neutral protamine Hagedorn insulin

Raised innovation bar for the GLP-1 franchise



Growing market challenges

Regulatory requirements

Biosimilar competition

Political scrutiny

Market access constraints

Novo Nordisk R&D strategy and priorities

STRATEGIC PRIORITIES

Strengthen leadership in
DIABETES CARE

Strengthen leadership in
OBESITY CARE

Pursue leadership in
HAEMOPHILIA

Strengthen leadership in
GROWTH DISORDERS

Expand into other
SERIOUS CHRONIC DISEASES

R&D PRIORITIES

 • Develop disruptive insulin and GLP-1 based products with distinct clinical and/or delivery advantages

• Develop novel mechanisms that reverse the course of diabetes, act as insulin sensitisers and improve hard clinical endpoints

 • Develop new biologics combined with GLP-1 to achieve >15% weight loss

 • Pursue subcutaneous delivery of long-acting coagulation factors and bypassing agents

 • Bring once-weekly growth hormone to market and expand indications

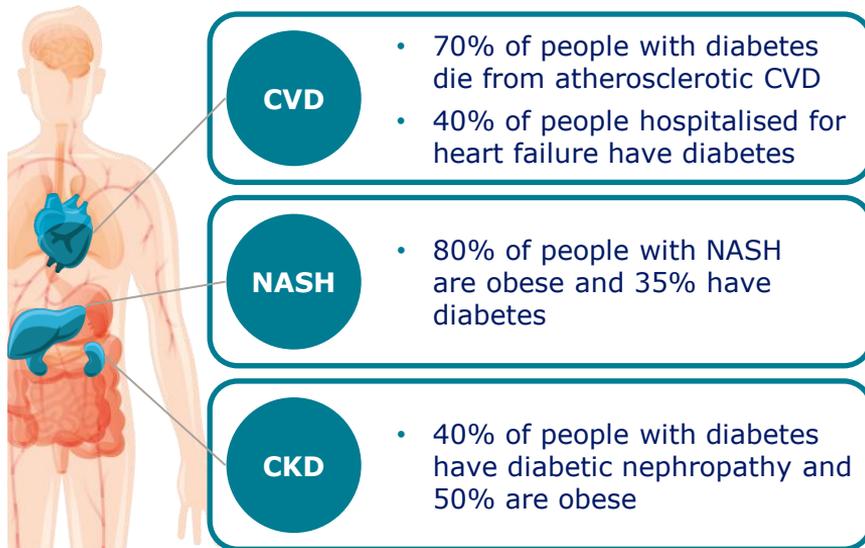
 • Enter NASH, CVD and CKD by leveraging GLP-1 and other internal assets as well as licensing external opportunities

Innovate to improve patient outcomes and drive growth

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

Expansion into other serious chronic diseases with high unmet medical needs and market attractiveness

Serious chronic diseases are often associated with diabetes and obesity



CVD: Cardiovascular disease; NASH: Non-alcoholic Steatohepatitis; CKD: Chronic kidney disease
Source: Diabetes Care 2005 Jan; 28(1): 164-176

New therapeutic areas represent patient populations with high unmet medical needs

	Estimated patients	Number of related deaths
CVD	~420 million	~20 million annually

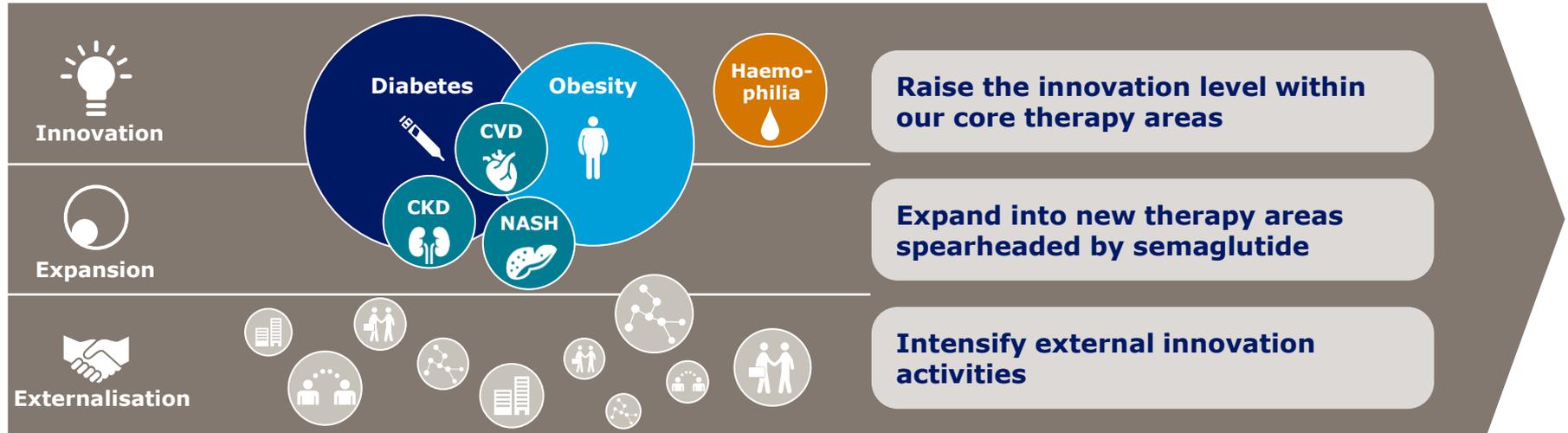
	Estimated patients	Diagnosis rate
NASH	~15-40 million ¹	~20% ²
CKD	~200 million	~20%

¹ Internal forecast comprising US, Europe and Japan

² Diagnosis rate is considered a major uncertainty to the forecast

Source: Abera SF et al. Global, Regional, and National Burden of Cardiovascular Diseases for 10 Causes, 1990 to 2015, 2017; Heart Disease and Stroke Statistics, American Heart Association, 2017; Williams CD et al. Prevalence of nonalcoholic fatty liver disease and nonalcoholic steatohepatitis among a largely middle-aged population utilizing ultrasound and liver biopsy, 2011; Addressing the global burden of chronic kidney disease through clinical and translational research, 2014

The R&D strategy focuses on innovation and expansion of current patient base



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

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**Research strategy
and priorities**

Peter Kurtzhals
SVP Global Research

ALEX SILVERBERG, Sweden
Alex has type 1 diabetes



Strengthening leadership in diabetes by improving patient outcomes

Significant unmet needs remain within diabetes



Need for reducing hypoglycaemia, co-morbidities and oral drug delivery



Opportunities to provide patients with new innovative treatment options

Research priorities

Pursue next-generation insulin and GLP-1 with benefits in addition to classic glucose regulation

Identify new anti-diabetics with novel modes of action and co-morbidity benefits

Explore new technologies and other modalities besides peptides and proteins

Pursue all attractive external innovation opportunities

Current activities

- Once-weekly insulin 287
- Liver preferential insulin 406

- PYY 1562
- Anti-IL-21/liraglutide

- Stem cell research: Type 1 diabetes project in progress

- External diabetes assets at all development stages are evaluated

Expanding the obesity pipeline with new targets

High growth and unmet needs in the obesity market



Unmet medical needs in an immature pharmaceutical market



A unique and attractive growth opportunity



Numerous peptide- and protein-based opportunities

Research priorities

Pursue all relevant options with >15% weight reduction potential

Target pathways with new modes of action complementary to GLP-1

Explore new targets with co-morbidity benefits

Monitor external opportunities on an ongoing basis

Current activities



Improving patient outcomes by expanding into other serious chronic diseases

The opportunity of other serious chronic diseases



High unmet medical needs and high market attractiveness



Can be addressed with in-house assets and/or R&D capabilities



Opportunity for external collaborations

NASH: Non-alcoholic steatohepatitis; CV: Cardiovascular;
MoA: Mode of action

Research priorities

Cardiovascular disease

- Leverage internal assets and capabilities to develop drug candidates
- Build dedicated research unit to drive internal and external innovation
- Access external projects with strong biological foundation

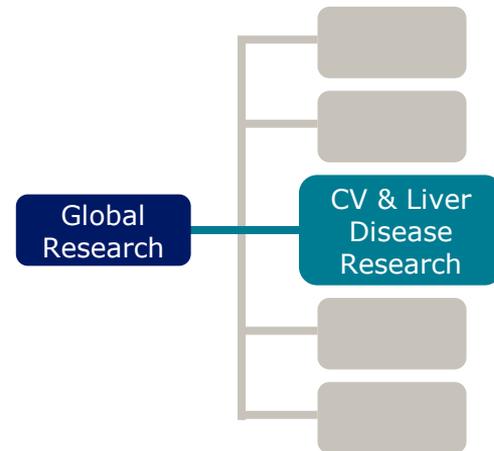
NASH

- Utilise internal cardio-metabolic and obesity assets to provide entry
- Build dedicated research unit
- External search for new MoAs targeting liver inflammation and fibrosis

Chronic kidney disease

- Explore internal assets and monitor external opportunities for in-licensing

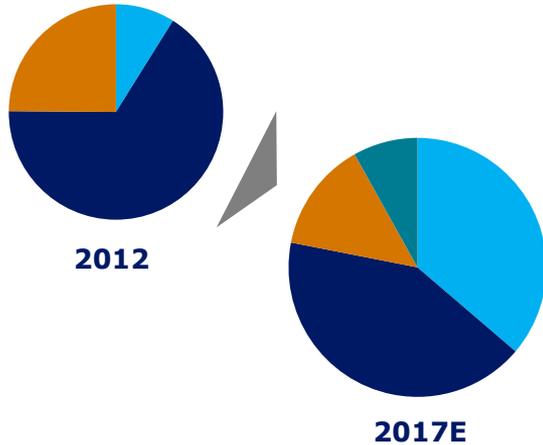
Dedicated area for serious chronic diseases established



Global Research organised to ensure successful execution of the revised R&D strategy

Research investment reflects revised R&D strategy

■ Diabetes
 ■ Obesity
 ■ Biopharm
■ Other serious chronic disease areas



Note: Inflammation and devices excluded from the charts. The relative size of the pie charts depicts the development in overall spend, but is illustrative only

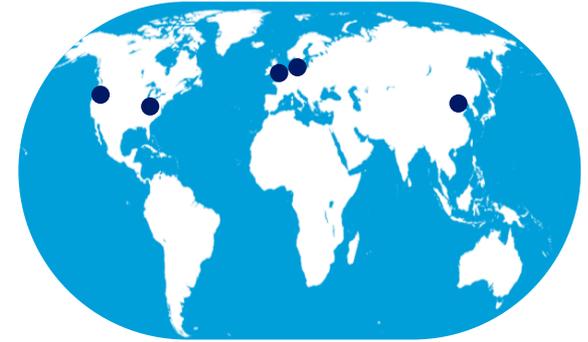
Strengthened externalisation within academia and biotech

Examples



Increasing global presence ensures access to key talents

● Research centers





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**Late-stage
product portfolio**

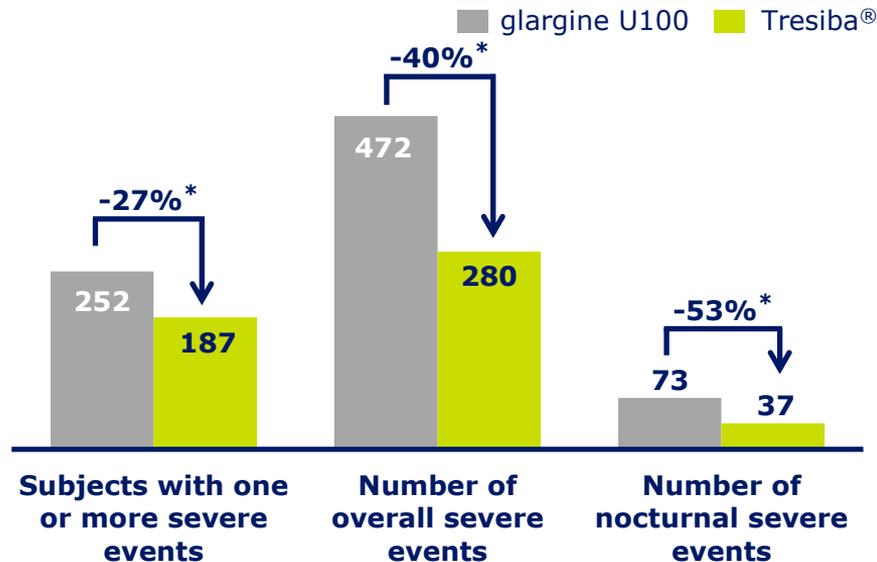
Peter Kristensen
SVP Global Development

KELLY HECTOR, USA
Kelly has type 1 diabetes

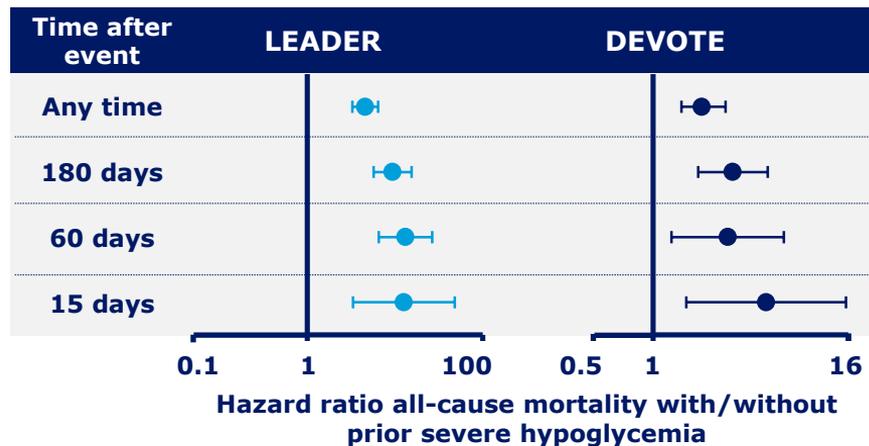


Post-approval trials support the association between severe hypoglycemia and increased mortality risk

Lower rates of severe hypoglycaemia demonstrated in DEVOTE



Post-hoc analyses suggest higher all-cause mortality following severe hypoglycaemia

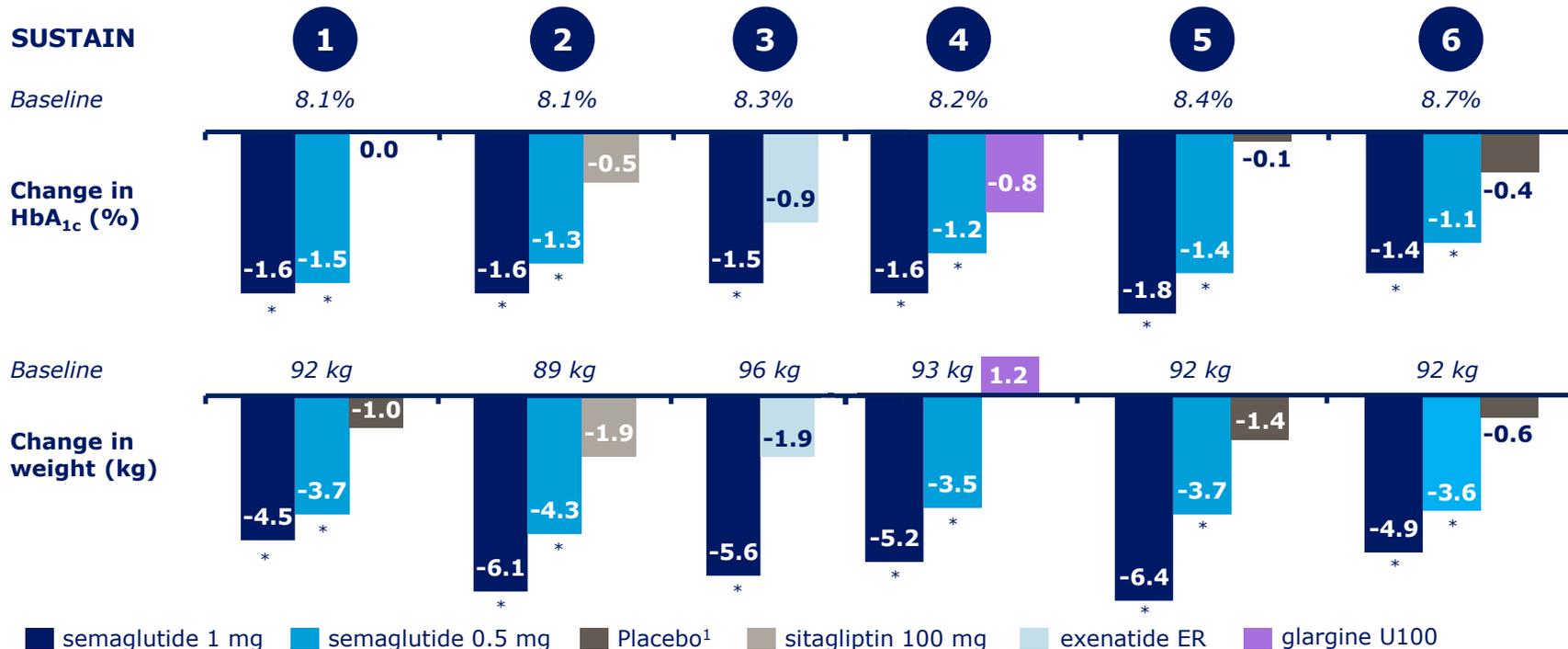


* Statistically significant

Source: Marso et al. New England Journal of Medicine 2017;377:723-32

Source: European Association for the Study of Diabetes - 53rd Annual Meeting, A-17-739-EASD, Sep 2017

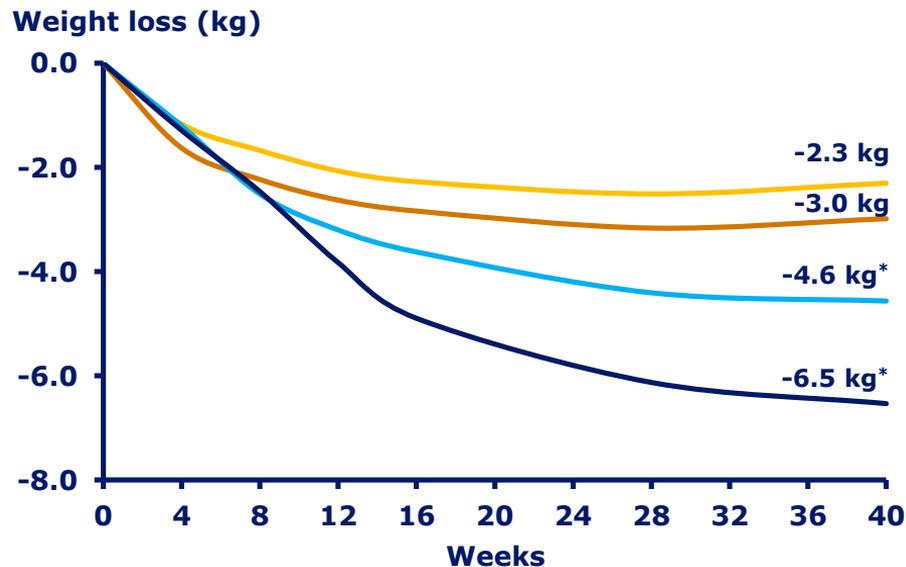
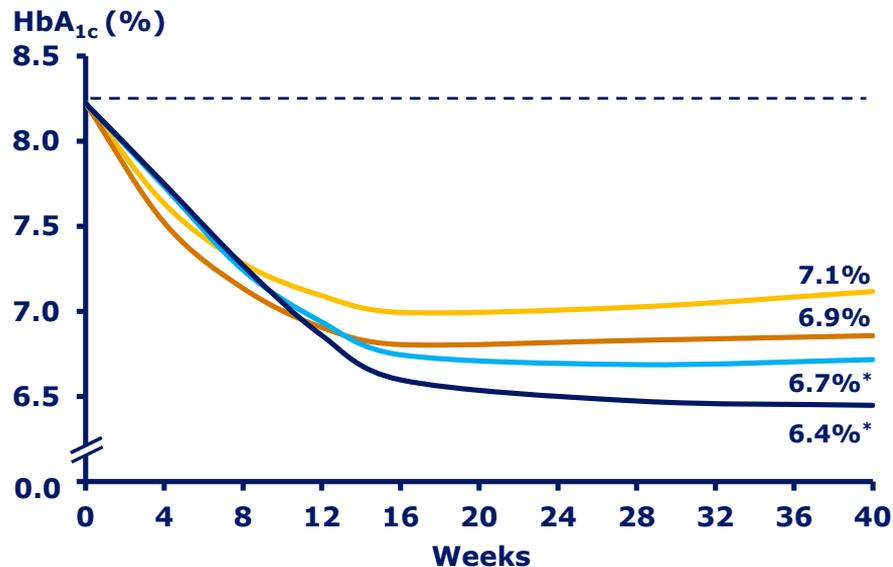
SUSTAIN phase 3a trials with semaglutide successfully completed



* Statistically significant; ¹ SUSTAIN 1: Once-weekly semaglutide versus placebo in drug-naïve subjects with type 2 diabetes; SUSTAIN 5: Once-weekly semaglutide versus placebo in subjects with type 2 diabetes added to insulin; SUSTAIN 6: Once-weekly semaglutide versus placebo, added to standard-of-care
ER: Extended-release

Semaglutide demonstrated superiority on both glucose control and weight loss vs dulaglutide in SUSTAIN 7 trial

— dulaglutide 0.75 mg — dulaglutide 1.5 mg — semaglutide 0.5 mg — semaglutide 1.0 mg



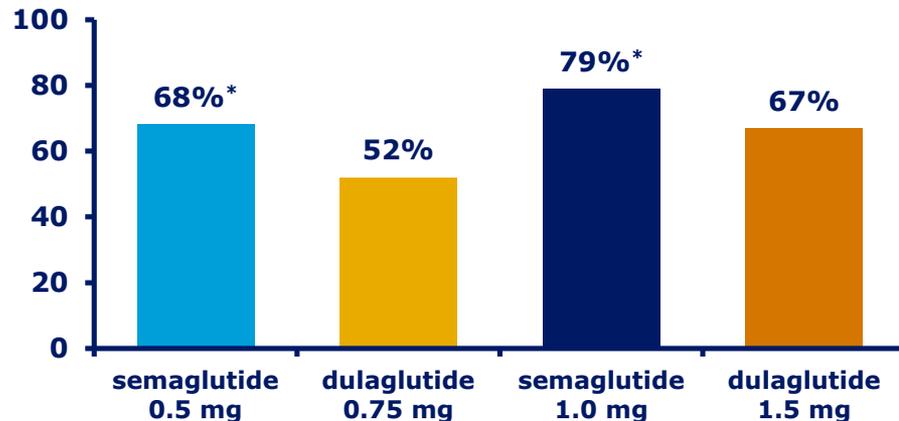
* p-value < 0.0001

Note: Inclusion criteria: Male or female, age ≥18 years, stable treatment with metformin, HbA_{1c} 7.0-10.5%

Significantly more semaglutide patients reached target for glucose control in the SUSTAIN 7 trial vs dulaglutide

Percentage of patients achieving the ADA recommended HbA_{1c} target below 7.0%

% of patients at HbA_{1c} <7.0%



* Statistically significant difference in both low and high dose comparisons
ADA: American Diabetes Association

Conclusion and next steps

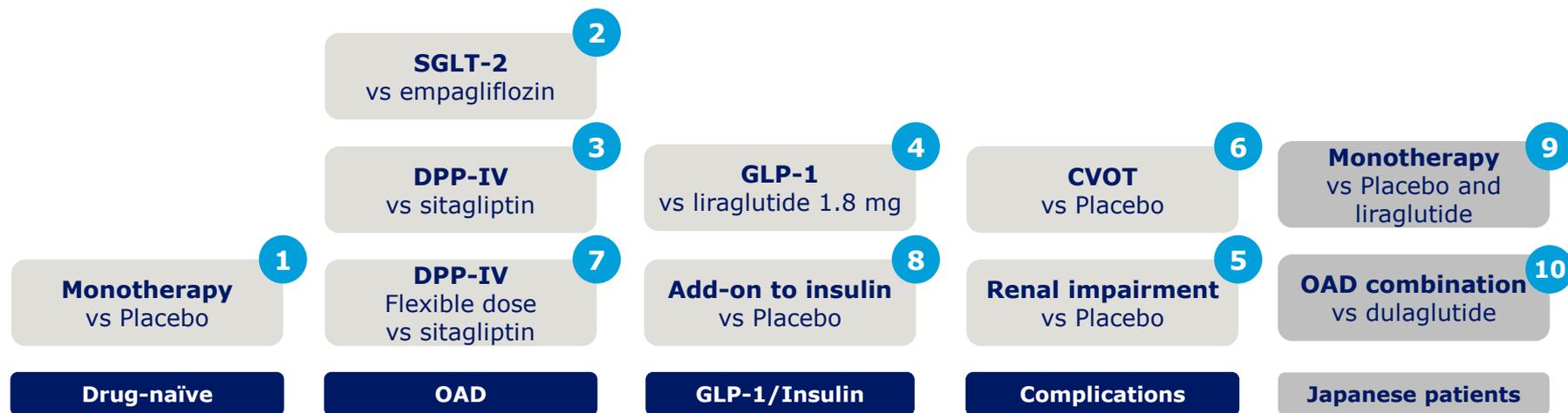
- Clinically meaningful and statistically significant differences of 0.4% HbA_{1c} and 2-4 kg between the compared treatments
- Low events of diabetic retinopathy in both semaglutide and dulaglutide groups (4 and 5 events, respectively)
- Semaglutide was well-tolerated and showed an adverse event profile consistent with previous SUSTAIN trials

Next steps

- SUSTAIN 7 results expected to be published in a medical journal in early 2018
- Regulatory feedback expected in the US and the EU in the fourth quarter of 2017

PIONEER programme for oral semaglutide investigates the entire treatment cascade

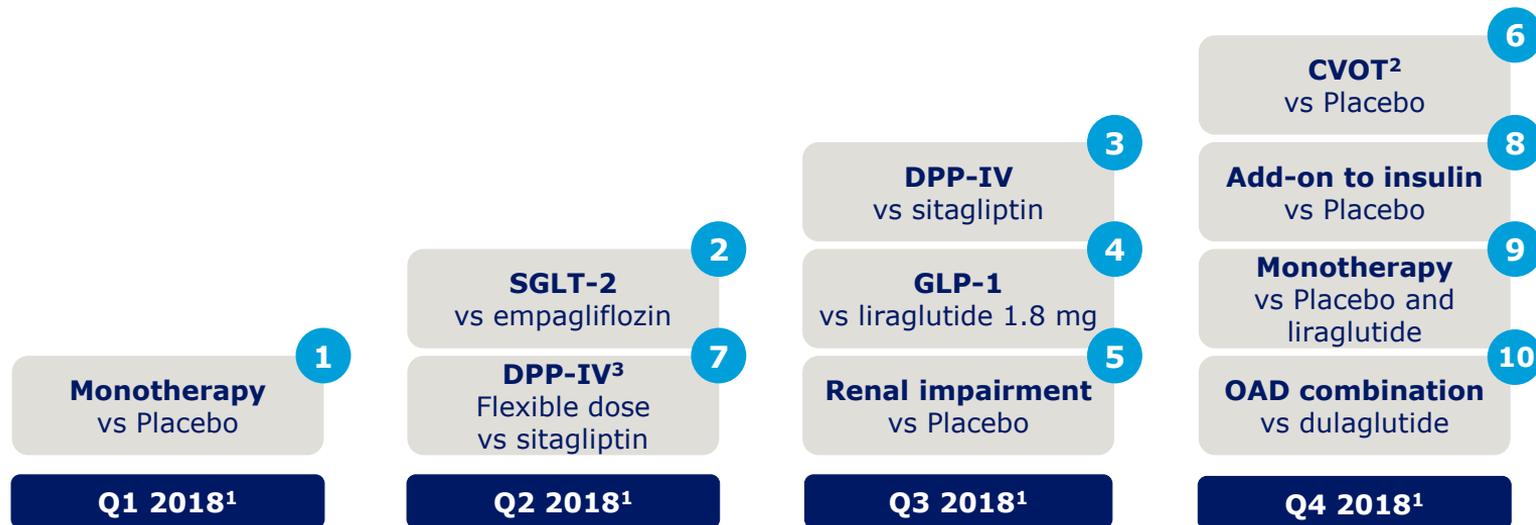
 PIONEER trial



SGLT-2: Sodium-glucose co-transporter-2; DPP-IV: Dipeptidyl peptidase-4; OAD: Oral anti-diabetic; CVOT: Cardiovascular outcomes trial

Full PIONEER programme expected to read out during 2018¹

 PIONEER trial



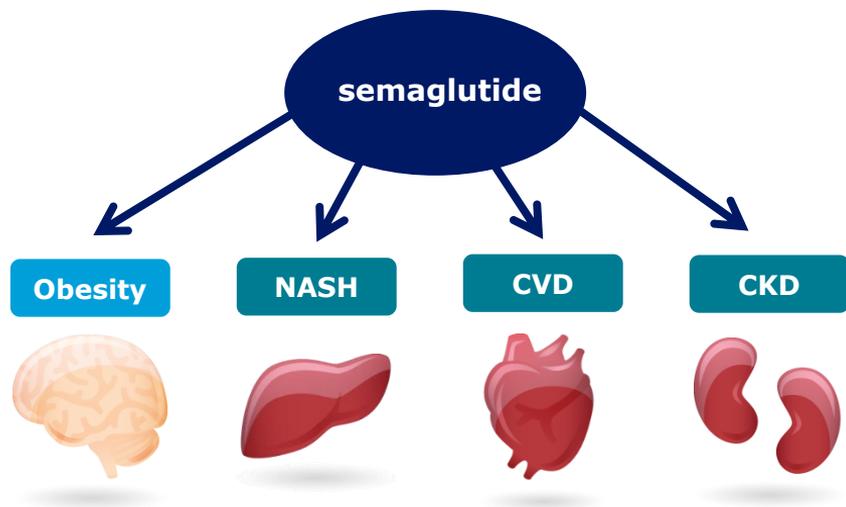
¹ Expected to be published in the given quarter or in the subsequent quarterly company announcement; ² Trial to rule out cardiovascular risk; ³ To be followed by 52-week extension trial

Note: Estimated timing of trials from first patient first visit to last patient last visit and subsequent completion of trial

SGLT-2: Sodium-glucose co-transporter-2; DPP-IV: Dipeptidyl peptidase-4; CVOT: Cardiovascular outcomes trial; OAD: Oral anti-diabetic

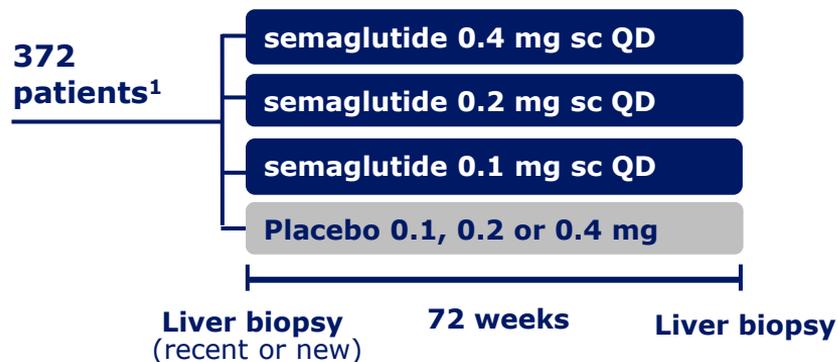
Trials in obesity and other serious chronic disease areas building on the semaglutide molecule

Planned or ongoing trials with semaglutide addressing other serious chronic diseases



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

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



Next steps:

- Phase 2 trial expected to complete 2020
- An MR imaging trial initiated in November 2017

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



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Regulatory update

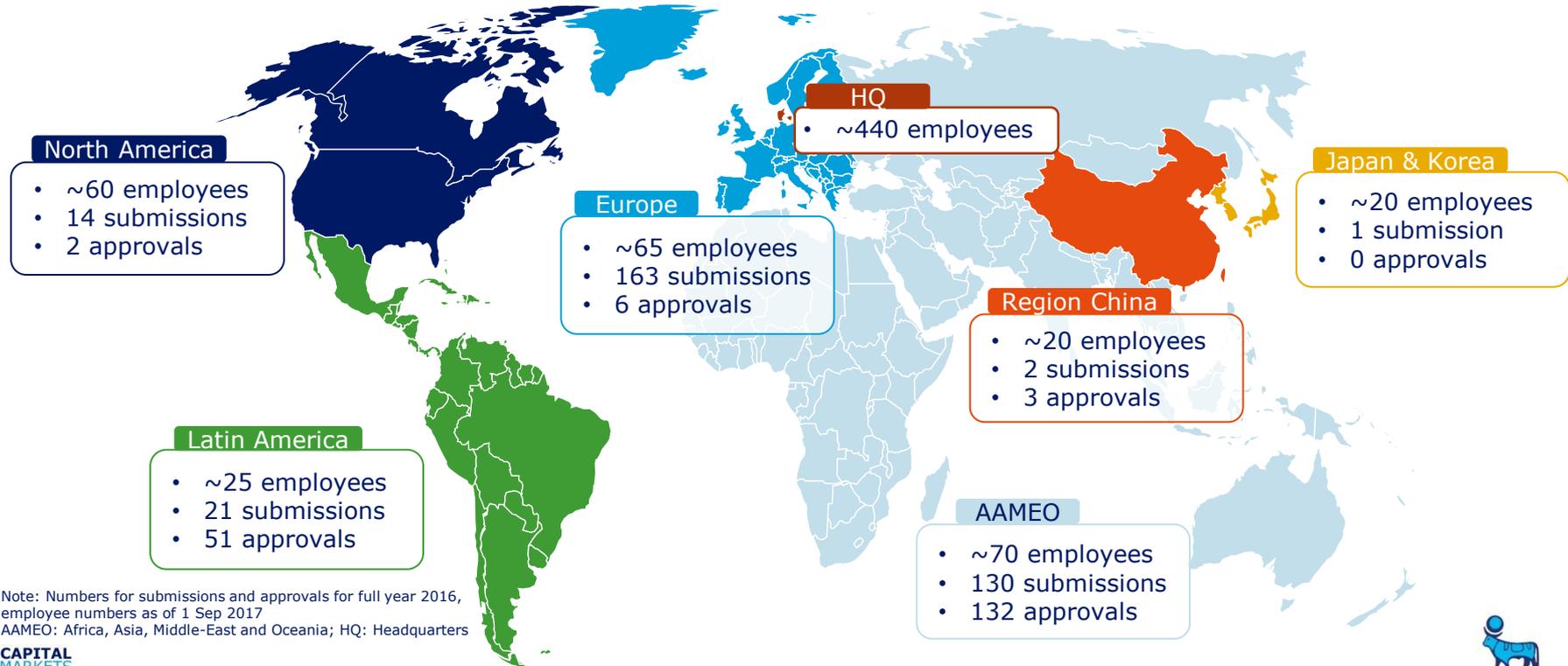
Robin Evers

SVP Medical Affairs,
Regulatory and Safety

REN YANXIA, China
Yanxia has type 2 diabetes



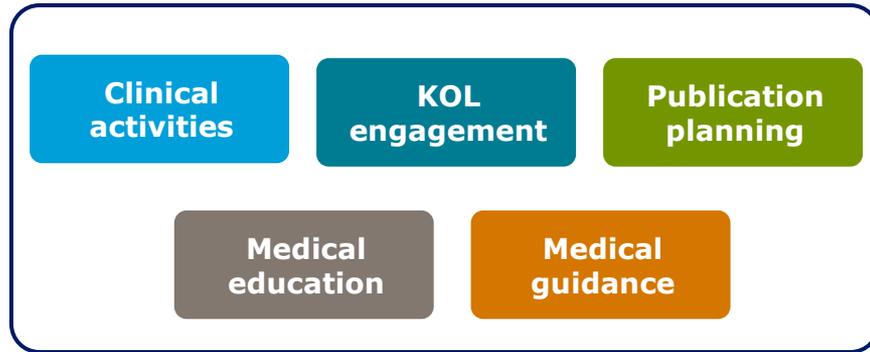
The global regulatory organisation handled over 300 submissions and obtained ~200 approvals in 2016



Note: Numbers for submissions and approvals for full year 2016, employee numbers as of 1 Sep 2017
 AAMEO: Africa, Asia, Middle-East and Oceania; HQ: Headquarters

Medical Affairs is responsible for early scientific dialogue ahead of product launches

Medical Affairs activities



Key preparations ahead of a product launch



Ensure scientific dialogue



Secure congress presence



Publish scientific publications



Conduct medical education to secure safe patient use of launched products



Obtain external advice on medical needs and appropriate use from Key Opinion Leaders (KOLs) and International Professional Associations (IPAs)

Regulatory review for semaglutide is progressing as planned

Regulatory status - USA



USA

- Semaglutide advisory committee meeting held on 18 October with a 16-0 vote in favour of recommending approval of semaglutide
- Regulatory decision expected in Q4 2017
- Pending approval, launch is expected Q1 2018

Regulatory status – rest of world



EU

- CHMP opinion expected in Q4 2017, followed by final decision by the EU commission in Q1 2018
- Pending approval, launch is expected in the first European countries during 2018



Japan

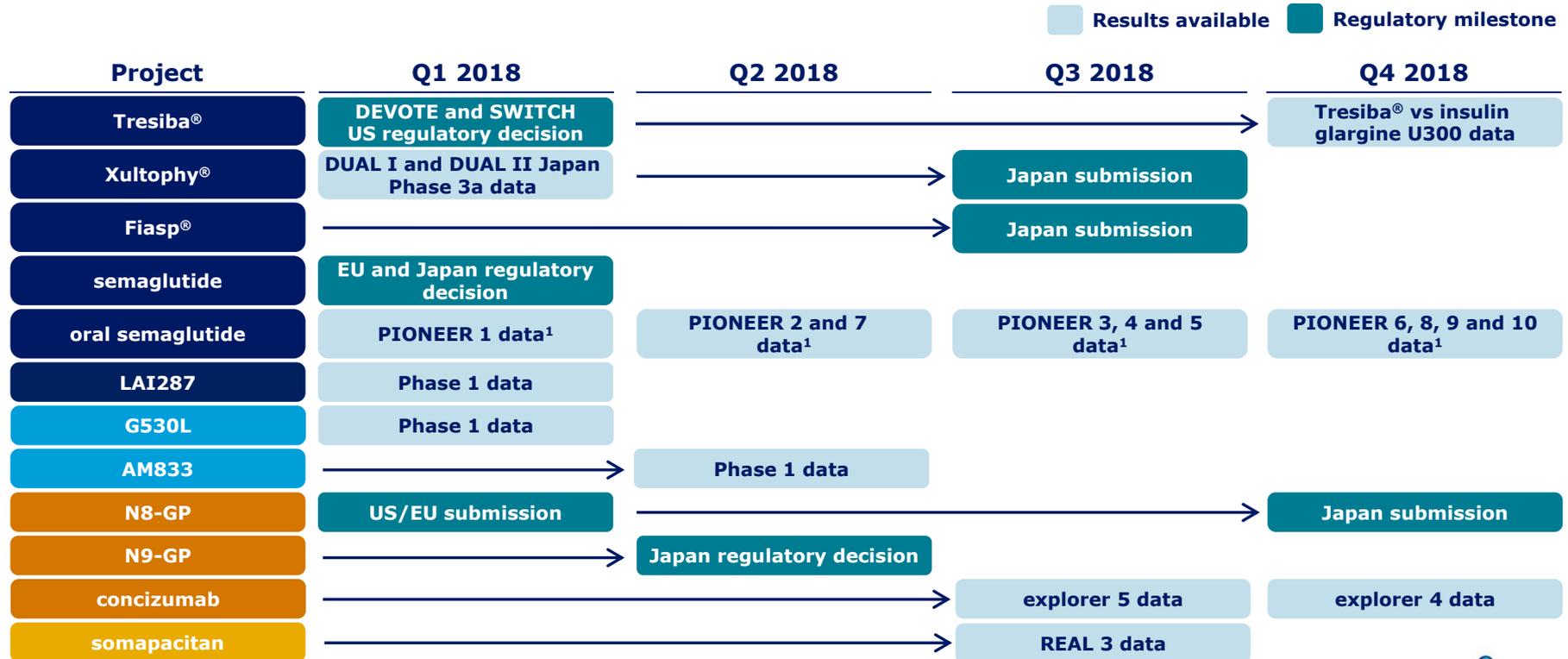
- Regulatory decision expected Q1 2018
- Pending approval, launch is expected mid-2018

Total countries

- Semaglutide has been submitted in 35 countries in total

CHMP: Committee for Medicinal Products for Human Use in the EU

R&D milestones in 2018



■ Diabetes
 ■ Obesity
 ■ Haemophilia
 ■ Growth disorders

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

Closing remarks

Innovation bar raised following increased maturity of core areas and market access challenges

Significant unmet needs remain within core therapy areas and other serious chronic diseases

Semaglutide demonstrated unprecedented clinical benefits vs comparators in the SUSTAIN programme, spearheading expansion to new areas



ZIHAO LI AND HIS MOTHER BING HAN, China
Zihao has haemophilia A

Q&A - R&D update

On stage

- Mads Krogsgaard Thomsen, EVP and Chief Science Officer
- Peter Kurtzhals, SVP Global Research
- Peter Kristensen, SVP Global Development
- Robin Evers, SVP Medical Affairs, Regulatory and Safety

CARLA PRISCO, Brazil
Carla Prisco has type 1 diabetes



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Driving insulin growth

Mike Doustdar
EVP International Operations



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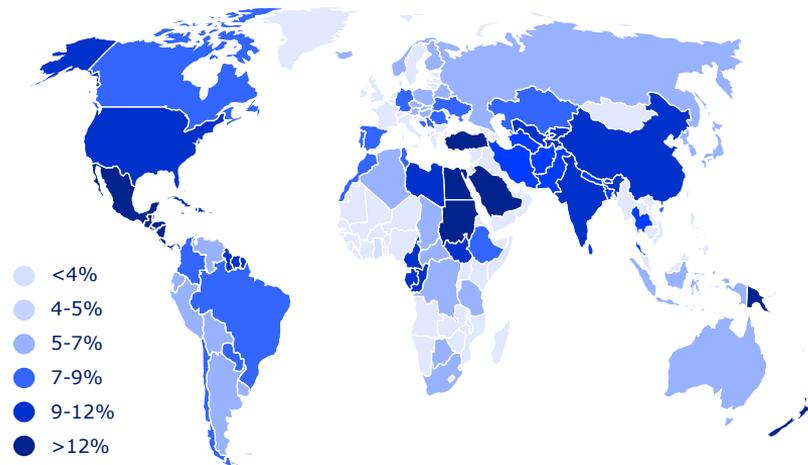
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Important drug information

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- Saxenda® (liraglutide 3 mg) is approved in the US and EU for the treatment of obesity only

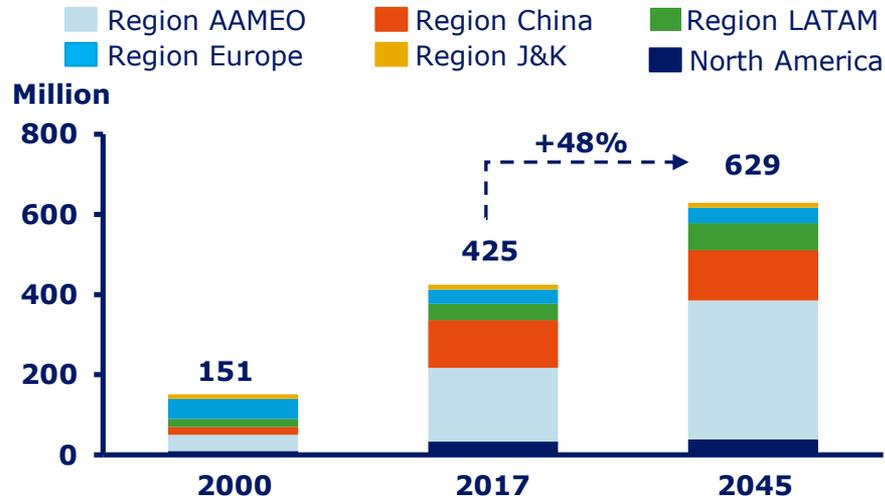
Global diabetes prevalence is increasing and 629 million people are expected to have diabetes by 2045

Around 10% of all adults have diabetes globally in 2017



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

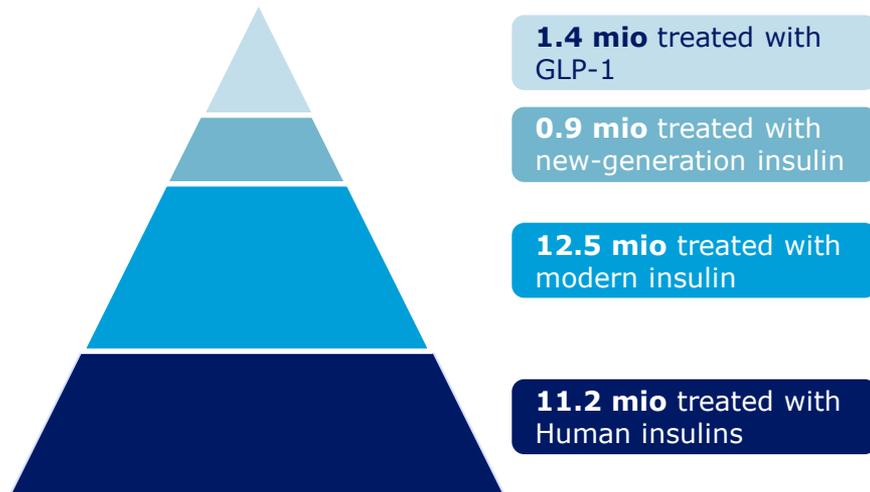
The number of people with diabetes is expected to increase by 48% by 2045



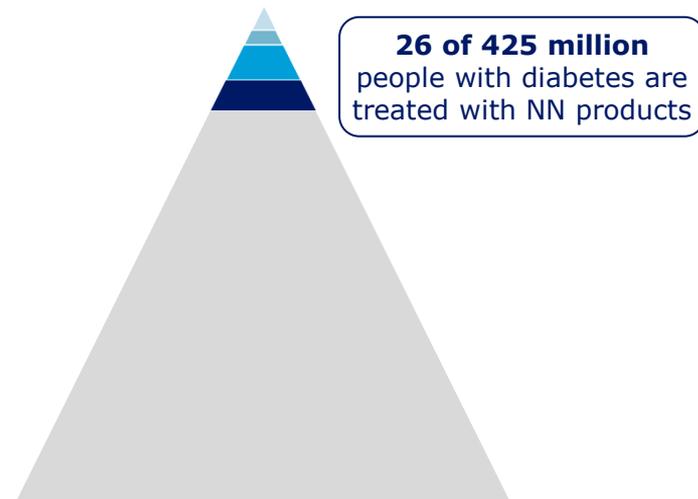
J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
Source: International Diabetes Federation: Diabetes Atlas 1st Edition 2000 and Diabetes Atlas 8th Edition 2017

Focus on driving global insulin growth by increasing the number of people who are using Novo Nordisk products

Around 26 million people are currently treated with Novo Nordisk insulin and GLP-1 products



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



NN: Novo Nordisk
Source: International Diabetes Federation: Diabetes Atlas 8th Edition 2017

Novo Nordisk holds a broad insulin portfolio with three generations of products covering the treatment cascade

Novo Nordisk product portfolio includes three generations of insulin products

	Basal insulin	Mix insulin	GLP & basal combination	Bolus insulin
New-generation insulin	Tresiba®	Ryzodeg®	Xultophy®	Fiasp®
Modern insulin	Levemir®	NovoMix®		NovoLog®
Human insulin	Insulatard®	Mixtard®		Actrapid®

Commercial focus depends on market maturity and market access situation

	Commercial focus	Volume strategy	Value strategy
New-generation insulin	Differentiation		
Modern insulin	Familiarity		
Human insulin	Affordability		

Novo Nordisk's new-generation insulins enable people with diabetes to achieve improved glycaemic control

Aspiration for new-generation insulins is to set a new standard for insulin treatment

TRESIBA[®]
insulin degludec [rDNA origin] injection

RYZODEG[®]
70% insulin degludec and 30% insulin aspart [rDNA origin] injection

Xultophy[®]
insulin degludec/liraglutide [rDNA origin] injection

Fiasp[®]
fast-acting insulin aspart

Product aspiration

The new standard for basal initiation

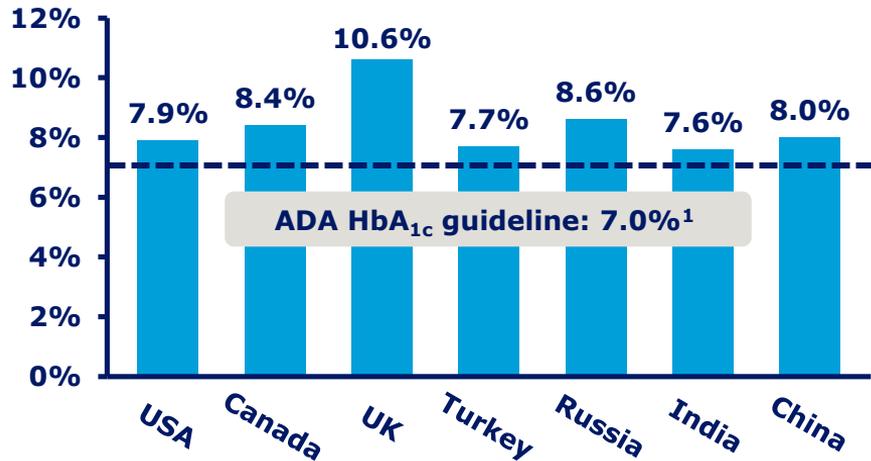
The preferred basal & bolus combination

The best GLP-1 & basal combination

The preferred meal time insulin

Achieving glycaemic control remains a global challenge for people with diabetes

Average HbA_{1c} in people with type 2 diabetes in selected countries

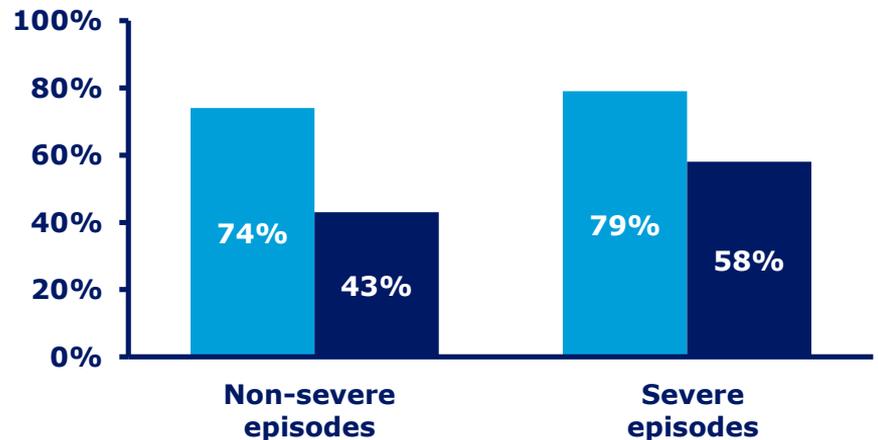


¹ ADA HbA_{1c} guideline: American Diabetes Association Standard of Medical Care in Diabetes Source: McKnight et al. Diabet Med 2015;32:1036-50; Oguz et al. Curr Med Res Opin 2013;29:911-20; Polinski et al. BMC Endocr Disord 2015;15:46; Mendivil et al. Curr Med Res Opin 2014;30:1769-76

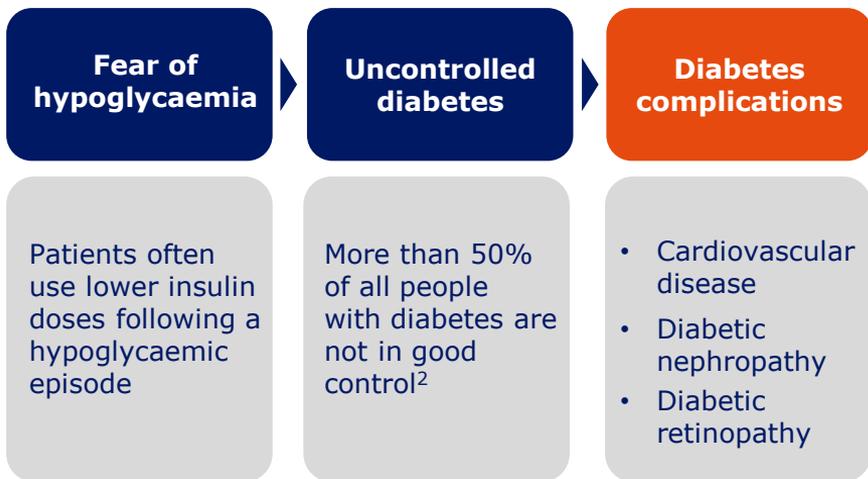
Fear of hypoglycaemia remains a challenge in achieving optimal insulin treatment for people with diabetes

People experiencing a hypoglycaemic episode tend to reduce their insulin dose

Proportion of patients decreasing insulin dose following a hypoglycaemic episode¹



Fear of hypoglycaemia leads to poor glycaemic control and long-term diabetes complications



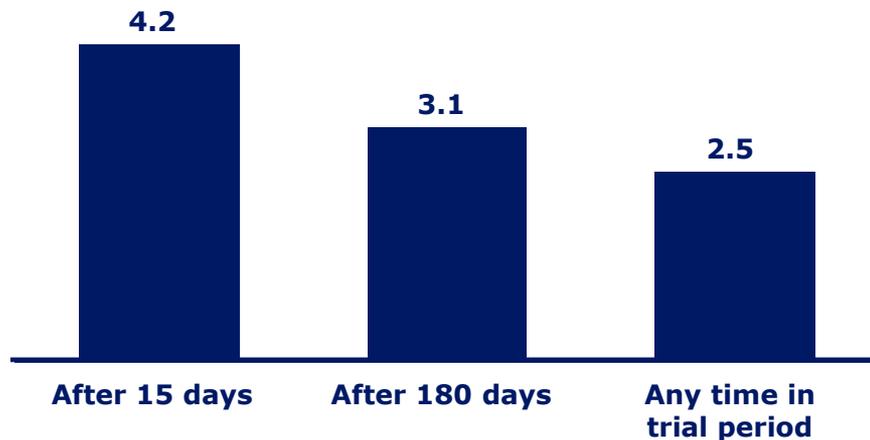
¹ Total patient sample, n=335 (T1DM, n=202; T2DM, n=133) GAPP™ (A global internet survey of patient and physician beliefs regarding insulin therapy): n=1250 physicians
T1D: Type 1 diabetes; T2D: Type 2 diabetes
Source: Leiter et al, Can J Diabetes 2005;29:186-92. Peyrot et al, Diabet Med 2012;29:6829

² International Diabetes Federation: Diabetes Atlas 8th Edition 2017

Severe hypoglycaemia episodes are associated with increased risk of death and large healthcare cost

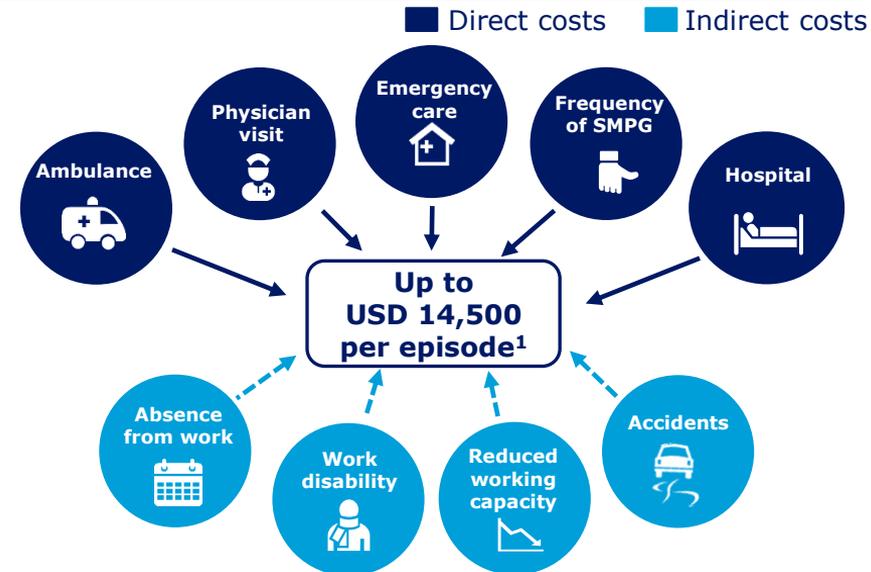
In DEVOTE people with a severe hypoglycaemia episode were at 2.5 times higher risk of death

Hazard ratio for risk of death following a severe hypoglycaemia episode



Source: European Association of the Study of Diabetes, Session 33, Sep 15 2017

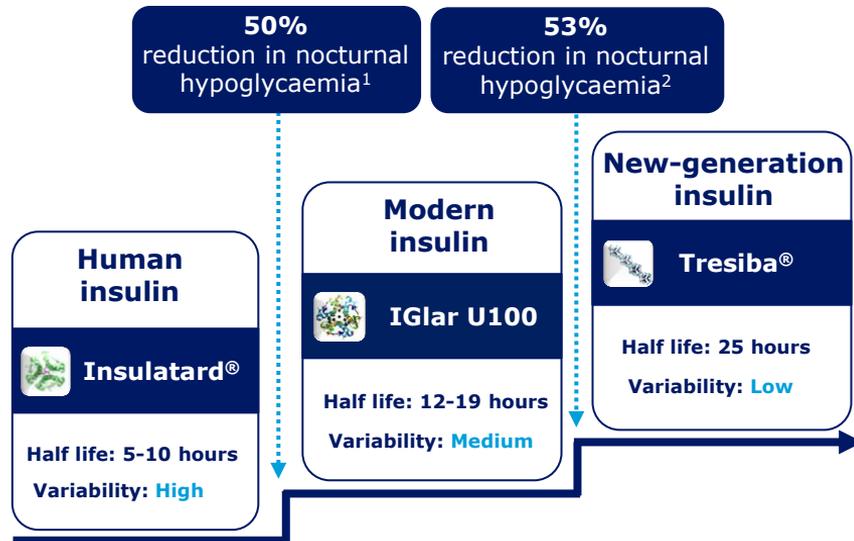
Severe hypoglycaemia episodes are associated with large healthcare costs



¹ American Diabetes Association conference 2016, poster 1240-P
 SMPG: Self-Measured Plasma Glucose
 Source: Jönsson, L et al, J Value Health 2006;9:193-198. Farmer A et al, Curr Med Res Op 2008;24:3097-3104. Amiel, SA et al, Diabet Med 2008;25:245-254

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

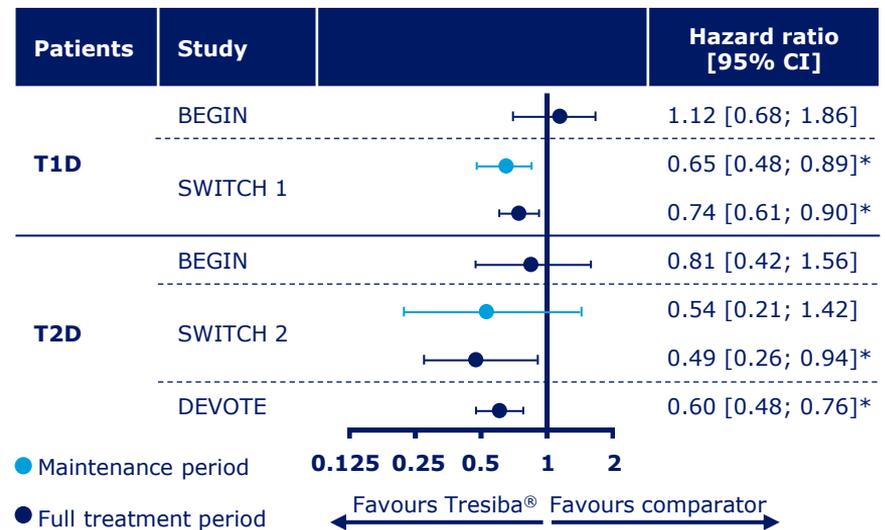
Tresiba® is a leap on the innovation ladder by further reducing nocturnal hypoglycaemia



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

² DEVOTE, American Diabetes Association 77th Scientific Sessions, 3-CT-SY22, June 12 2017
IGlarc U100: Insulin glargine U100

Tresiba® has consistently demonstrated relevant reductions in severe hypoglycaemia



* Statistically significant difference

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

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

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

Focus on simplified communication to improve hypoglycaemia awareness among general practitioners

Low variability and hypoglycaemia reduction is currently not a prescription driver for GPs

Endocrinologist

- 1 **Low intra-patient variability**
- 2 **Flat and stable profile**
- 3 Fits patient lifestyle
- 4 Confidence in the product
- 5 **Lower overall hypoglycaemia**

General practitioner

- 1 Confidence in the product
- 2 Comfortable prescribing
- 3 Fits patient lifestyle
- 4 Simple option
- 5 Pen simplicity/functionality

Note: Prescription drivers highlighted in bold are factors related to reduced hypoglycaemia
GP: General practitioner

Source: IPSOS Basal insulin Awareness, Trial and Usage study Q3-2017: N=200 US physicians, of whom 100 are general practitioners, 100 are endocrinologists

Hypoglycaemia campaign initiated to improve awareness among general practitioners

Hypoglycemia may be happening more often than you think!

63%
OF
PATIENTS WITH
TYPE 1 DIABETES
had unrecognized hypoglycemia
as measured by a CGMS (n=40)

47%
OF
PATIENTS WITH
TYPE 2 DIABETES
had unrecognized hypoglycemia
as measured by a CGMS (n=30)

In this prospective study, a total of 70 patients were monitored using a CGM. Asymptomatic hypoglycemia detected by the CGM was defined as a glucose value <70 mg/dL.

Hypoglycemia can be a limiting factor in glycemic management²

Percent of patients modifying insulin doses after a hypoglycemic event to avoid another occurrence



In this survey-based, retrospective Crossover study, a total of 105 patients (Type 1 diabetes=20; Type 2 diabetes=85) recorded the frequency of unexplained hypoglycemic episodes experienced during the preceding 1 month, and the frequency of insulin hypoglycemia experienced during the preceding 12-month period and Diabetes. All of unexplained hypoglycemia (unexplained) was defined as a glucose value <70 mg/dL, and severe hypoglycemia was defined as requiring external assistance and a glucose value <54 mg/dL.

The risk of hypoglycemia is higher in the elderly population³

According to the American Diabetes Association, elderly patients with diabetes have additional challenges, including higher rates of unidentified cognitive deficits. "These cognitive deficits have been associated with increased risk of hypoglycemia."³

AIC goals and medication may need to be adjusted to reduce the risk of hypoglycemia in elderly patients.

CGM=continuous glucose monitoring system;
T1D=type 1 diabetes mellitus; T2D=type 2 diabetes mellitus.

Patients may talk about hypoglycemia without even knowing they were experiencing it

"Sometimes I am lightheaded when I wake up."



"I feel like I need to carry a snack around all the time."



"Running around on the weekends really wears me out."



START A CONVERSATION WITH YOUR PATIENTS TO HELP THEM RECOGNIZE HYPOLYCEMIA. Together, you can figure out when hypoglycemia happens and make adjustments accordingly.

Remember the common risk factors for hypoglycemia^{4,5}

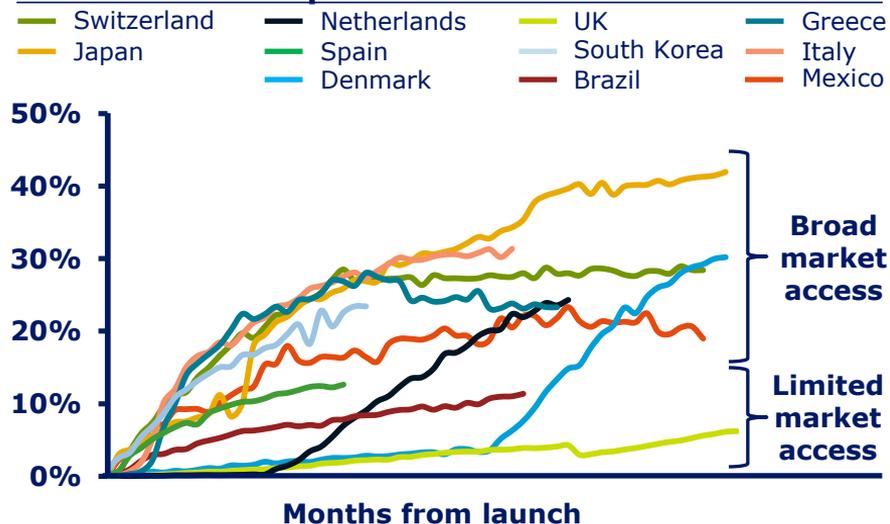


References: 1. Chou A, Vella A, Sirtori M, et al. The continuous glucose monitoring system is useful for detecting unrecognized hypoglycemia in patients with Type 1 and Type 2 diabetes but is not useful for frequent capillary glucose measurements for improving metabolic control. *Diabetes Care*. 2016;39(11):2312-2317. 2. Sirtori M, et al. Clinical use of a continuous glucose monitoring system for hypoglycemia management. *Diabetes Care*. 2016;39(11):2312-2317. 3. American Diabetes Association. Standards of Medical Care in Diabetes—2017. *Diabetes Care*. 2017;40(suppl 1):S1-S8. 4. American Diabetes Association. Standards of Medical Care in Diabetes—2017. *Diabetes Care*. 2017;40(suppl 1):S1-S8. 5. American Diabetes Association. Standards of Medical Care in Diabetes—2017. *Diabetes Care*. 2017;40(suppl 1):S1-S8. © 2017 Novo Nordisk. Printed in the U.S.A. USA1703403122 August 2017

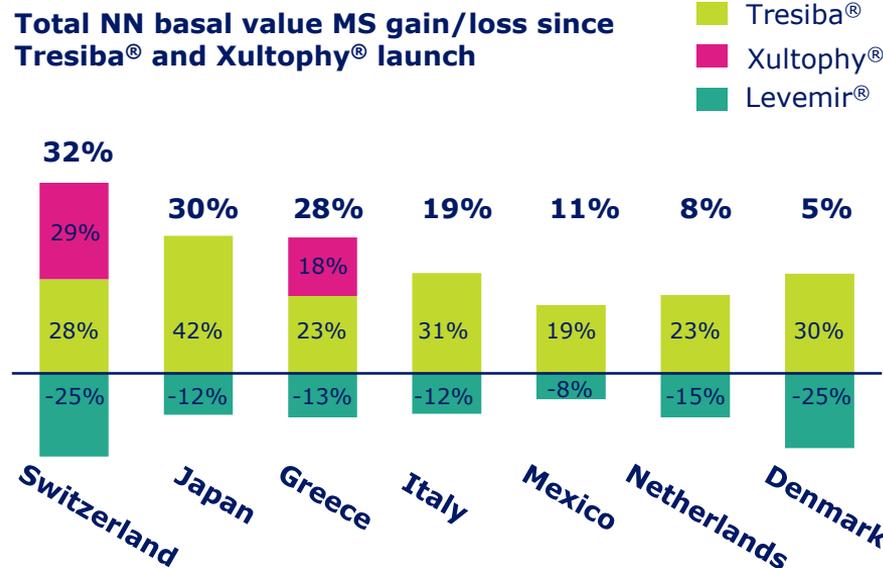


Increased total basal insulin value market share in countries with broad market access

The level of market access determines the uptake of Tresiba®



Novo Nordisk has gained market share in most countries since Tresiba® and Xultophy® launch



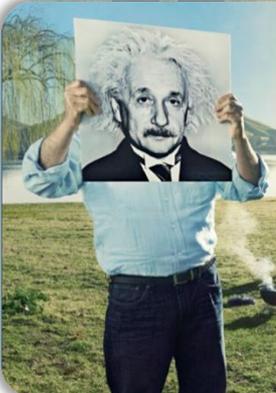
Source: IQVIA (formerly IMS) Monthly value figures, Sep 2017

NN: Novo Nordisk; MS: Market share
Source: IQVIA (formerly IMS) Monthly value figures, Sep 2017

Novo Nordisk holds a portfolio of new-generation insulins covering treatment options along the treatment cascade

RYZODEG®

70% insulin degludec and 30% insulin aspart
[rDNA origin] injection



FOR TYPE 2 DIABETES

A simpler way to be smart about basal and bolus

Ryzodeg® – FIRST combination of a basal insulin with an ultra-long duration of action and a mealtime insulin in one pen^{1,2}

- A simpler regimen with fewer injections than basal and bolus therapy
- Successful reductions in HbA_{1c}¹
- Lower risk of overall and nocturnal hypoglycaemia vs biphasic insulin aspart 30 (NovoMix® 30)^{1,2}

delivered twice daily at main meals²
*in a multinational study

Xultophy®

insulin degludec/liraglutide
[rDNA origin] injection



Once-daily Xultophy®

Taking progress a step further

With proven benefits vs basal-bolus therapy^{1*}

- Comparable HbA_{1c} reduction¹ of 1.5%, achieved with 44 fewer insulin units and with only 1 injection per day vs up to 5 injections per day with basal-bolus therapy^{1*}
- Weight loss with superior 3.6 kg difference^{1*}
- Significant reduction in rate of overall hypoglycaemic episodes by 89%^{1,2*}

in patients with type 2 diabetes uncontrolled on glargine U100¹

A simple intensification treatment combining degludec and liraglutide in 1 pen¹

Fiasp®

fast-acting insulin aspart



Introducing Fiasp®

A faster insulin response at mealtime

From the first bite!

Compared with NovoRapid®

Closing remarks

Global insulin growth driven by increased number of people using Novo Nordisk's products

Full portfolio of new-generation insulins with Tresiba® setting new standard for basal initiation

Fear of hypoglycaemia remains a challenge in achieving optimal insulin treatment

Focus on improving hypoglycaemia awareness among general practitioners



ALEXANDRE DE GREGORIO, Brazil
Alexandre has type 2 diabetes

novo nordisk – a focused healthcare company

Winning with GLP-1

Lars Fruergaard Jørgensen
President and CEO



Forward-looking statements

Novo Nordisk's reports filed with or furnished to the US Securities and Exchange Commission (SEC), including the company's Annual Report 2016 and Form 20-F, which are both filed with the SEC in February 2017 in continuation of the publication of the Annual Report 2016, and written information released, or oral statements made, to the public in the future by or on behalf of Novo Nordisk, may contain forward-looking statements. Words such as 'believe', 'expect', 'may', 'will', 'plan', 'strategy', 'prospect', 'foresee', 'estimate', 'project', 'anticipate', 'can', 'intend', 'target' and other words and terms of similar meaning in connection with any discussion of future operating or financial performance identify forward-looking statements. Examples of such forward-looking statements include, but are not limited to:

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- Statements containing projections of or targets for revenues, costs, income (or loss), earnings per share, capital expenditures, dividends, capital structure, net financials and other financial measures
- Statements regarding future economic performance, future actions and outcome of contingencies such as legal proceedings, and
- Statements regarding the assumptions underlying or relating to such statements.

These statements are based on current plans, estimates and projections. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific. Novo Nordisk cautions that a number of important factors, including those described in this presentation, could cause actual results to differ materially from those contemplated in any forward-looking statements.

Factors that may affect future results include, but are not limited to, global as well as local political and economic conditions, including interest rate and currency exchange rate fluctuations, delay or failure of projects related to research and/or development, unplanned loss of patents, interruptions of supplies and production, product recall, unexpected contract breaches or terminations, government-mandated or market-driven price decreases for Novo Nordisk's products, introduction of competing products, reliance on information technology, Novo Nordisk's ability to successfully market current and new products, exposure to product liability and legal proceedings and investigations, changes in governmental laws and related interpretation thereof, including on reimbursement, intellectual property protection and regulatory controls on testing, approval, manufacturing and marketing, perceived or actual failure to adhere to ethical marketing practices, investments in and divestitures of domestic and foreign companies, unexpected growth in costs and expenses, failure to recruit and retain the right employees, and failure to maintain a culture of compliance.

Please also refer to the overview of risk factors in 'Risk Management' on pp 40-43 of the Annual Report 2016.

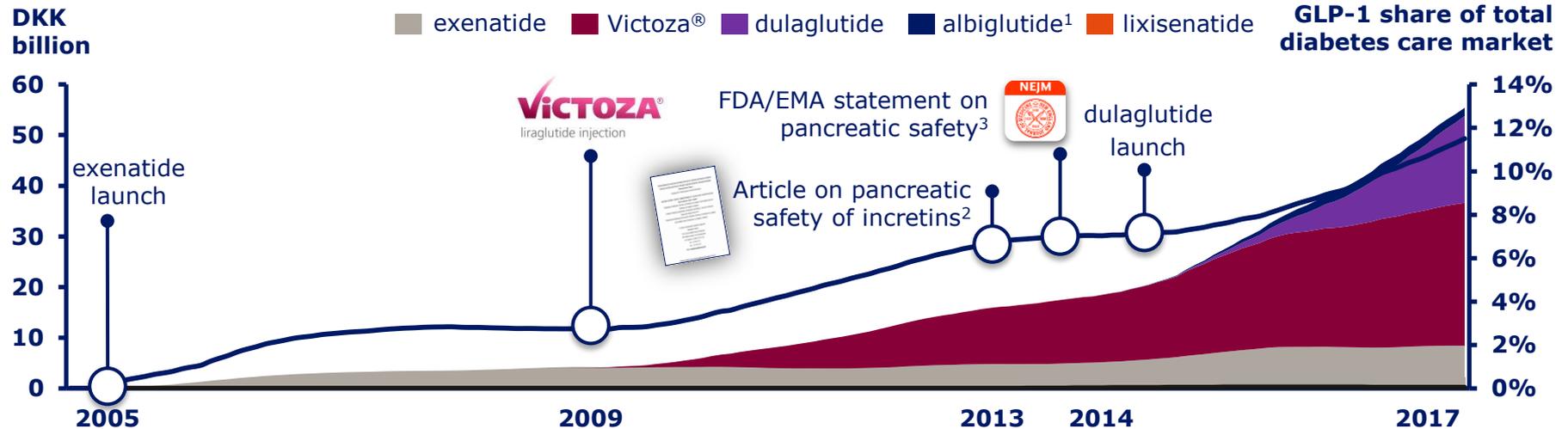
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GLP-1 penetration rate has increased over time driven by more efficacious and now once-weekly products

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



¹ Manufacturing and sale of albiglutide to be discontinued by Jul 2018

² Butler et al, Marked Expansion of Exocrine and Endocrine Pancreas With Incretin Therapy in Humans With Increased Exocrine Pancreas Dysplasia and the Potential for Glucagon-Producing Neuroendocrine Tumors, Diabetes, Vol. 62, Jul 2013

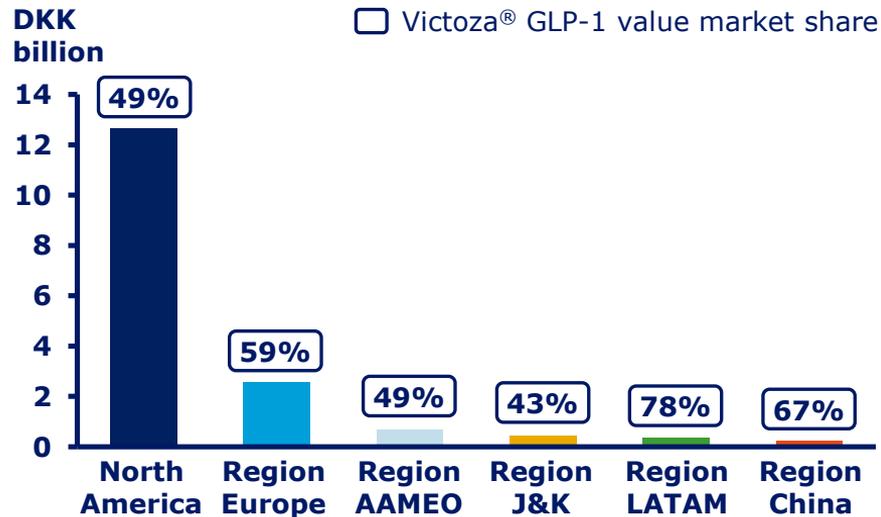
³ Egan et al, Pancreatic Safety of Incretin-Based Drugs — FDA and EMA Assessment, The New England Journal of Medicine 370;9, 27 Feb 2014

Source: IQVIA (formerly IMS) MIDAS, monthly data, Jul 2017 (Note: IQVIA data does not adequately capture rebates resulting in an overstatement of market value)

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

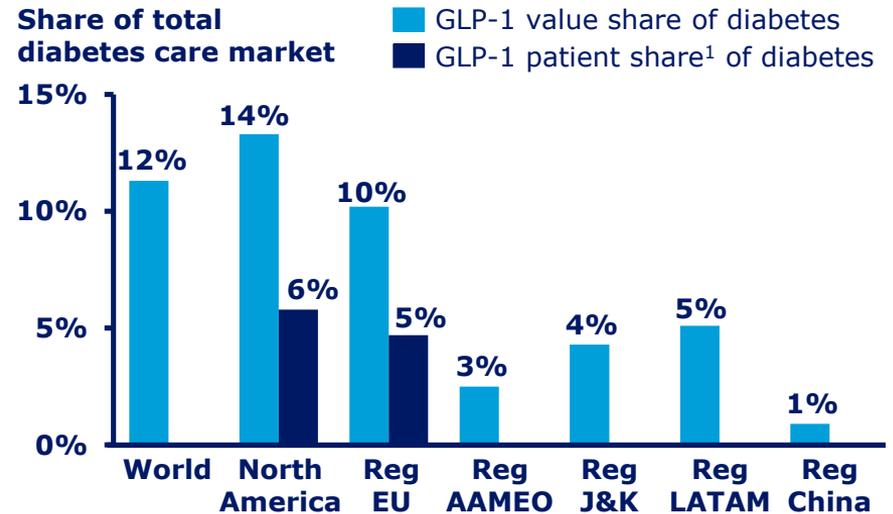
The US and Europe account for majority of Victoza® sales as GLP-1 penetration remains low in the rest of the world

Victoza® sales and GLP-1 value market share



AAMEO: Africa, Asia, Middle-East and Oceania; J&K: Japan & Korea; LATAM: Latin America
Source: Reported sales for the first nine months of 2017; IQVIA (formerly IMS) MIDAS, Sep 2017

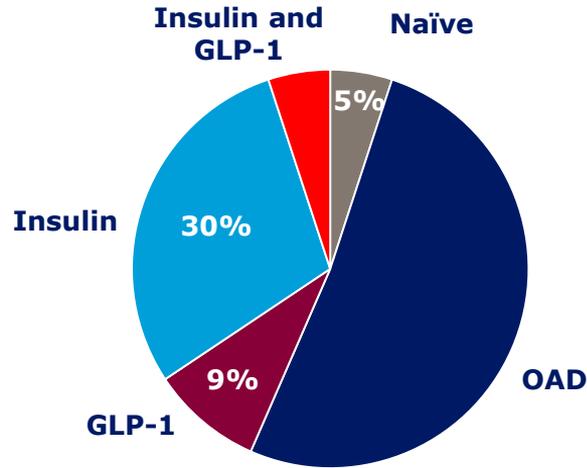
GLP-1 value and patient share of the total diabetes care market



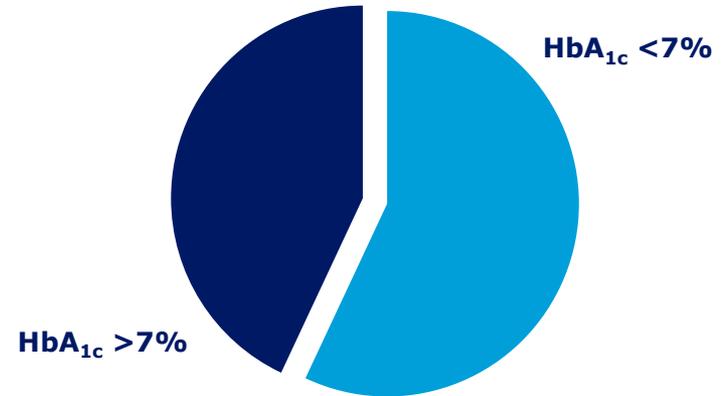
¹ Patient share is indicative and based on data for the US, UK, Germany and France only
Reg: Region
Source: Value data; IQVIA (formerly IMS) MAT Sep 2017; Patient data; IQVIA (formerly IMS) Disease Analyser (Germany, France, UK), IQVIA (formerly IMS) LRx (USA), Sep 2017

GLP-1 patients primarily switch from OADs and untapped potential is large with many OAD patients not in control

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



**Share of patients on OADs achieving
HbA_{1c} below 7% in major European countries**

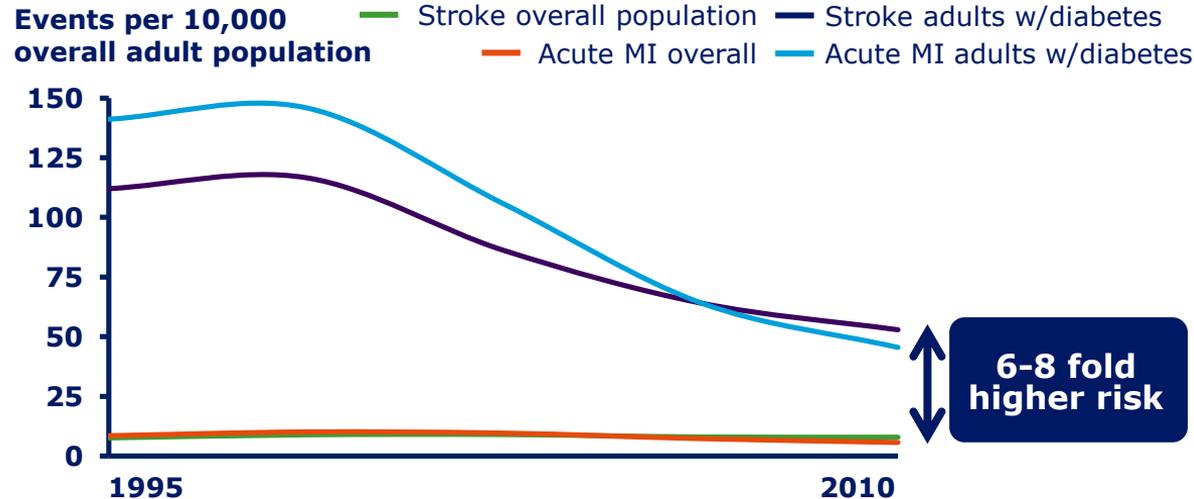


Note: Data based on data from France, Germany, UK and USA only
 OAD: Oral anti-diabetic (includes but is not limited to DPP-IV, SGLT-2, metformin and sulfonylurea)
 Source: IQVIA (formerly IMS) Disease Analyser (France, Germany and UK) and IQVIA (formerly IMS) LRx (USA), Sep 2017

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

CV benefits recently demonstrated in phase 3 trials set new treatment standard for people living with T2D and CVD

Despite advancements in the treatment of type 2 diabetes, adults with diabetes experience significantly more CV events



Only NN GLP-1s have shown significant CV risk reduction

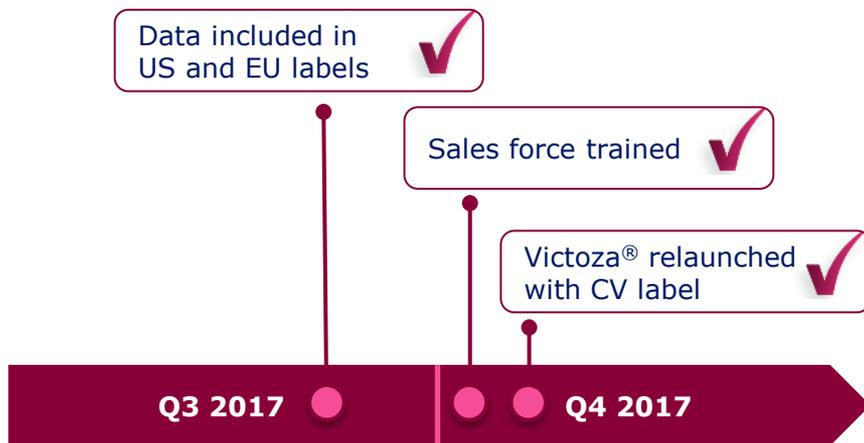
Product	Trial name	Hazard ratio
semaglutide	SUSTAIN 6	0.74*
liraglutide	LEADER	0.87**
exenatide ER	EXSCEL	0.91 NS
lixisenatide	ELIXA	1.02
ITCA 650	FREEDOM-CVO	N/A
albiglutide	HARMONY	Ongoing
dulaglutide	REWIND	Ongoing

* Statistically significant: $p=0.02$ (No adjustment for multiple tests); ** Statistically significant: $p=0.011$; NS: Not statistically significant
CV: Cardiovascular; T2D: Type 2 diabetes; CVD: Cardiovascular disease; MI: Myocardial infarction (heart attack); NN: Novo Nordisk
Source: Gregg et al, Changes in Diabetes-Related Complications in the United States, 1990–2010, New England Journal of Medicine, 370;16, 17 Apr 2014

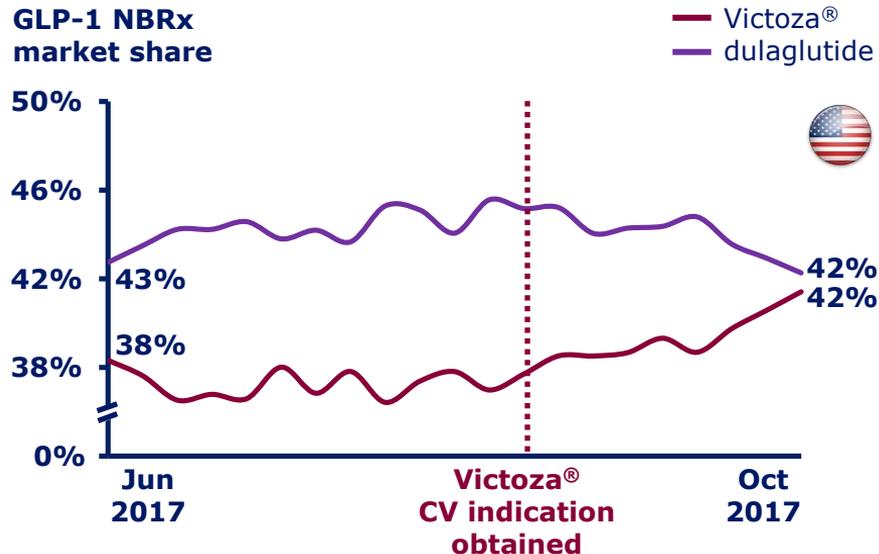
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Positive Victoza® market share trend observed following recently initiated promotion of Victoza® CV benefit

Victoza® CV campaign rolled out in second half of 2017 following label updates



Positive NBRx trend observed in the US following approval of Victoza® CV indication



CV: Cardiovascular

NBRx: New-to-brand prescription
Source: IQVIA (formerly IMS) LRx, weekly data, 27 Oct 2017

Semaglutide has demonstrated unprecedented clinical benefits and is expected to launch by the name Ozempic®

Unprecedented clinical results
for once-weekly semaglutide

Ozempic® - intended brand name
for once-weekly semaglutide



OZEMPIC®

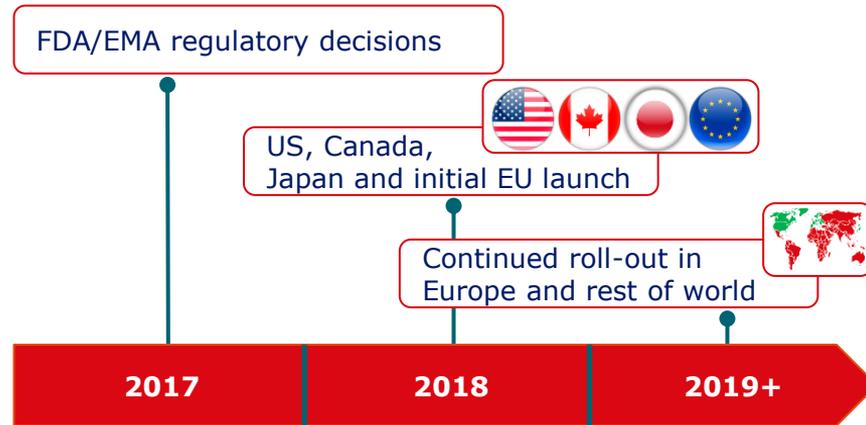
semaglutide injection

¹ Based on SUSTAIN 7 in which semaglutide demonstrated a statistically greater reduction in HbA_{1c} compared to dulaglutide; ² Based on SUSTAIN 7 in which semaglutide demonstrated a statistically greater reduction in body weight compared to dulaglutide; ³ Based on SUSTAIN 6 in which semaglutide demonstrated a relative reduction in cardiovascular risk of 26% when compared to placebo + standard of care
CVD: Cardiovascular disease

Note: Once-weekly semaglutide is not approved yet and Ozempic® is the intended, but yet to be approved brand name

Ozempic® to launch in first countries in 2018 with ambition to expand GLP-1 market by targeting new GLP-1 starts

Ozempic® expected to be launched in the US, Canada, Japan and first EU countries in 2018



Ozempic® to target 'new GLP-1 starts' and expand the segment

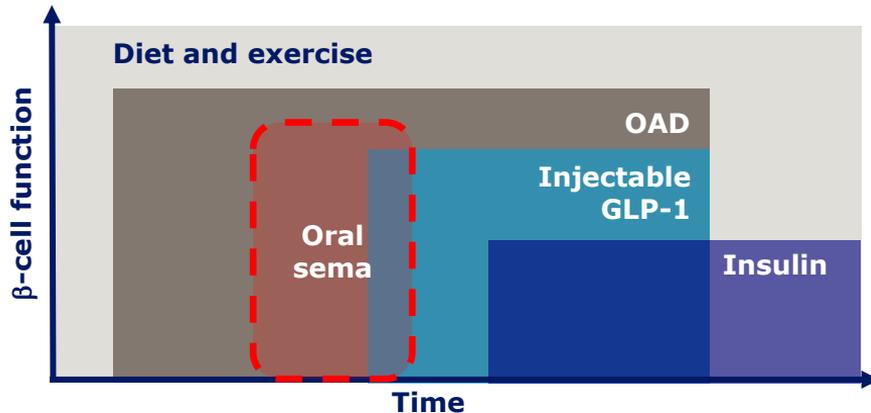
- Ozempic® will target 'new GLP-1 starts' with a unique clinical profile
- Unique clinical profile holds potential to drive earlier and more timely intensification of oral therapies and is expected to expand the GLP-1 segment
- Uptake expected to increase gradually as global market access emerges with commercial focus shifting from Victoza® to Ozempic®

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

Oral semaglutide expected to be positioned earlier in treatment cascade than injectable GLP-1 as a superior OAD

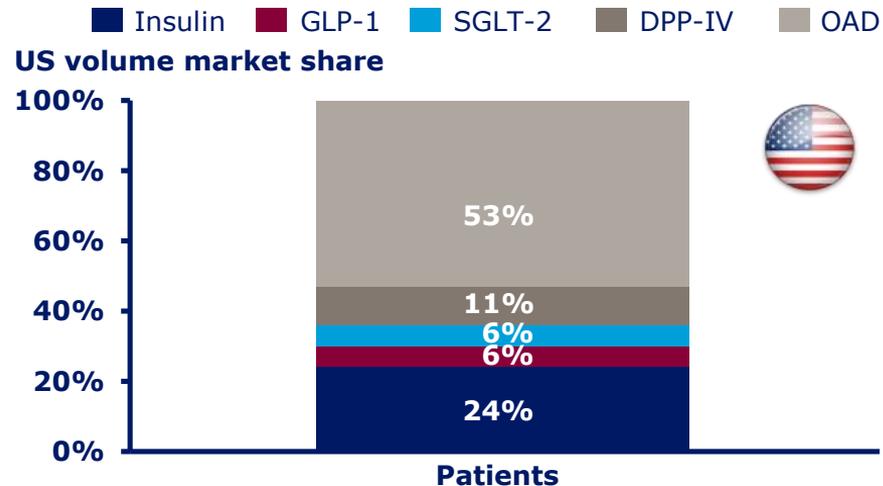
Oral semaglutide expected to compete as first treatment option post-metformin

Illustrative



OAD: Oral anti-diabetic; sema: Semaglutide

Oral semaglutide primarily expected to compete with SGLT-2 and DPP-IV



Note: Patient distribution across treatment classes is indicative
Source: IQVIA (formerly IMS) PharMetrix claims data, disease analyser and MIDAS, Sep 2017

Ambition for Ozempic® to become leading weekly GLP-1, with daily GLP-1 use shifting to oral semaglutide

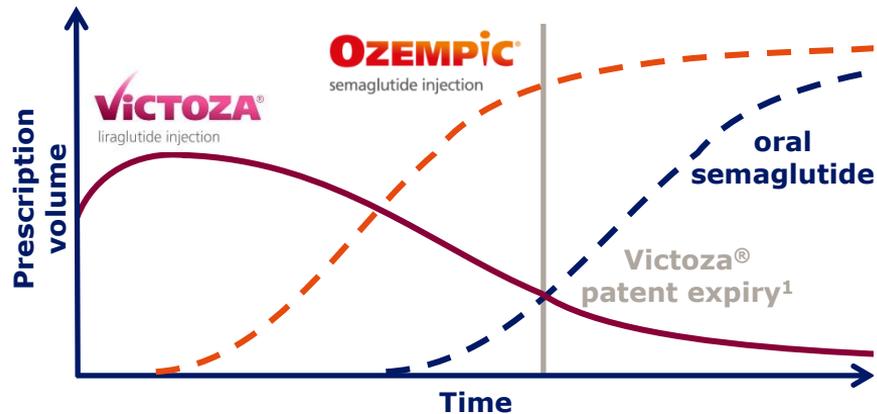
Promotional focus to shift from Victoza® towards Ozempic® as market access emerges

Illustrative



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

Illustrative



¹ Victoza patent expiry expected in 2022/2023 in most markets

Closing remarks

Victoza® and semaglutide CV benefits set new standard as cardiovascular disease and type 2 diabetes should be treated together

Victoza® relaunched with CV data in EU label and CV indication in the US

Ozempic® expected to launch in first countries in 2018 with ambition to expand GLP-1 market

Aim for Ozempic® to be leading weekly GLP-1, with daily GLP-1 use shifting to oral semaglutide

CV: Cardiovascular

Obesity patient ambassador Reneé





MARY EDWARDS, USA
Mary's BMI is 44

novo nordisk – a focused healthcare company

**Strengthen leadership
in obesity**

Mads Krogsgaard Thomsen
EVP and Chief Science Officer

Camilla Sylvest
EVP Commercial Strategy
and Corporate Affairs



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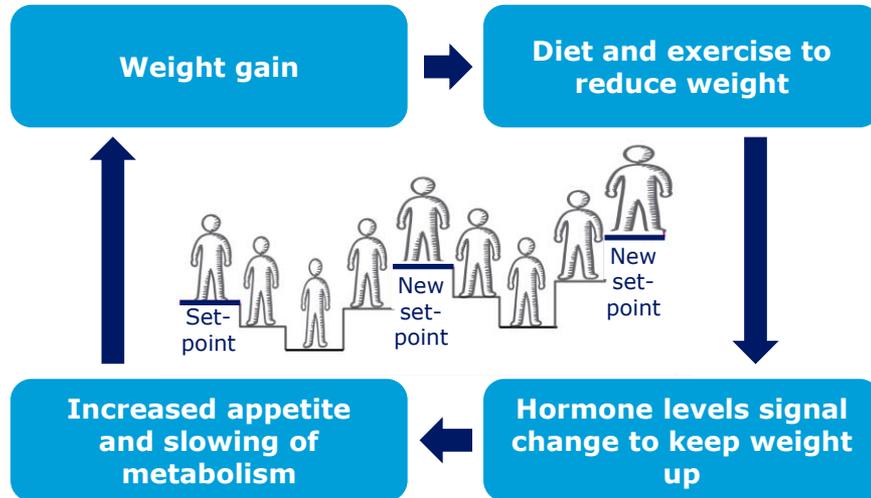
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Important drug information

- Victoza® (liraglutide 1.2 mg & 1.8 mg) is approved for the management of type 2 diabetes only
- Saxenda® (liraglutide 3 mg) is approved in the US and EU for the treatment of obesity only

Obesity is a chronic disease that requires treatment

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

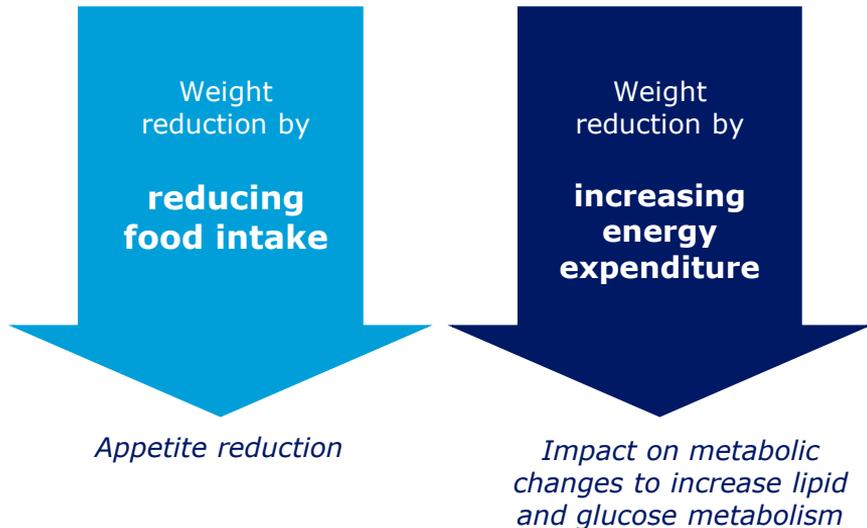


The body fights weight loss for people with obesity

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

The obesity pipeline consists of projects addressing both appetite reduction and energy expenditure

How to address obesity from a medical perspective



Novo Nordisk obesity products and pipeline

Projects:	Status:	2018 expected:
Saxenda®	Launched	
semaglutide – QW GLP-1	Phase 2	→ Phase 3
G530L – glucagon analogue ¹	Phase 1b	→ Phase 2
AM833 – amylin analogue	Phase 1b	→ Phase 2 ready
PYY1562 – PYY analogue	Phase 1b	→ Phase 1b ²
NN9499 – FGF21 obesity ³	Phase 1a	→ Phase 1b
NN9277 – GG-co-agonist	Phase 1a	→ Phase 1b
NN9423 – Tri-agonist 1706	Phase 1a	→ Phase 1b

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

¹ Phase 1 in combination with liraglutide and phase 2 planned in combination with semaglutide

² Phase 1b completed with monotherapy, phase 1b in combination with semaglutide planned for 2018

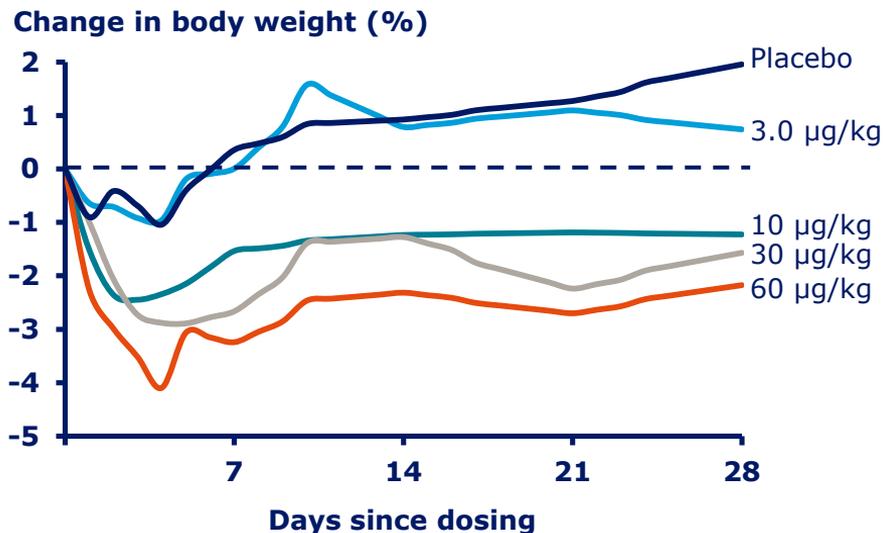
³ FGF21 potentially also targets appetite reduction

Phase 1a: Single-dose trials; Phase 1b: Multiple-dose trials

QW: Once-weekly

Promising phase 1a results for single-dose amylin

Long-acting amylin analogue single-dose phase 1a trial



Key results and next steps

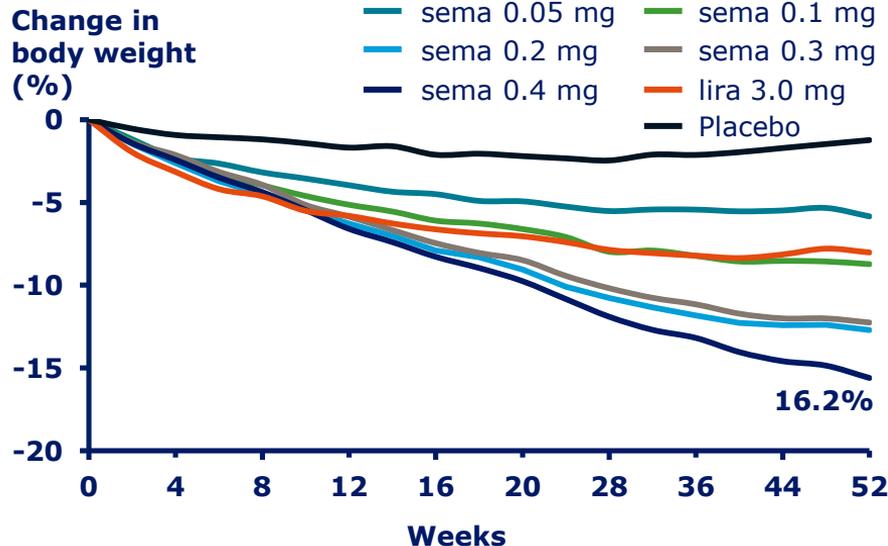
- Long-acting amylin analogue single dose considered safe and well-tolerated
- Change in body-weight appeared dose-dependent and was partly sustained in the follow-up period after administration of a single dose
- After 28 days, the mean body weight was 3.5 percentage points lower with a single injection of amylin 30 µg/kg compared to placebo, and gastrointestinal side effects were limited

Next steps

- Phase 2 ready late 2018 and trial initiation expected in the first quarter of 2019

Semaglutide demonstrated unprecedented weight loss in phase 2 obesity trial

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



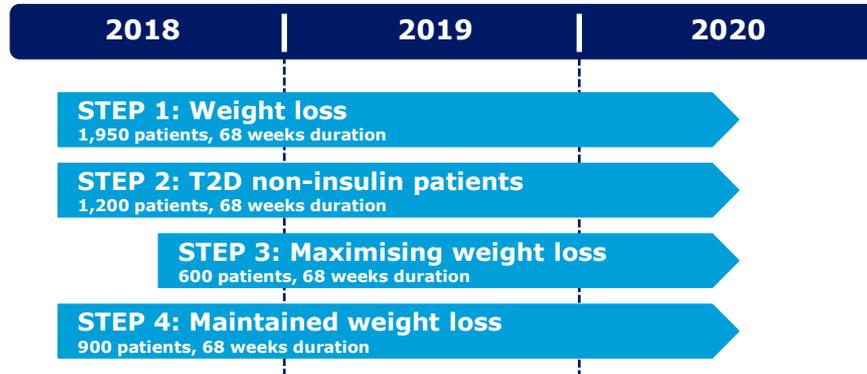
Note: All treatment arms are adjunct to diet and exercise
 QD: Once-daily; sema: Semaglutide; lira: Liraglutide

Key results and next steps

- Participants in the highest dose arms continued to lose weight over the duration of the trial as the response curve did not plateau in the highest dose arm
- Nearly two out of three patients experienced a weight loss of 10% or more with the highest dose of semaglutide
- 80% of patients completed the trial
- Once-daily semaglutide had a well-tolerated safety profile, with the most common adverse events being gastrointestinal
- **Next steps:** Phase 3 clinical trial programme to be initiated in the first half of 2018

Phase 3 trials with 2.4 mg once-weekly semaglutide in obesity to be initiated in the first half of 2018

Semaglutide in obesity phase 3a programme, STEP, expected to include ~4,500 patients¹



Expected phase 3a programme completion: 2020

¹ Inclusion criteria: Male or female, age ≥ 18 years, BMI: ≥ 30 kg/m² or ≥ 27 kg/m² and ≥ 1 comorbidity
 Note: All treatment arms are adjunct to diet and exercise
 TD2: Type 2 diabetes

Cardiovascular landmark study planned for semaglutide in obesity



Completion: Pre-defined number of events

¹ Inclusion criteria: Male or female > 45 years, BMI > 27 kg/m², myocardial infarction or stroke > 60 days, HbA_{1c} $< 6.5\%$
 QW: Once-weekly; sc: Subcutaneous

Despite obesity being a chronic disease, the reality is...



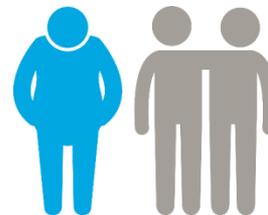
It is a significant cost burden for society



There is no specialty managing it



Physicians are not taught how to treat it



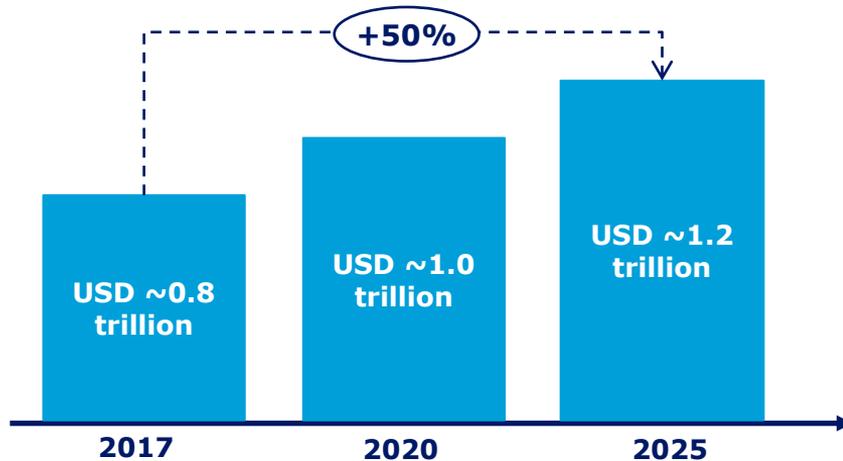
Patients are discriminated against for being obese



Patients lack treatment options

The healthcare cost associated with obesity expected to increase

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



Source: World Obesity Federation, 2017

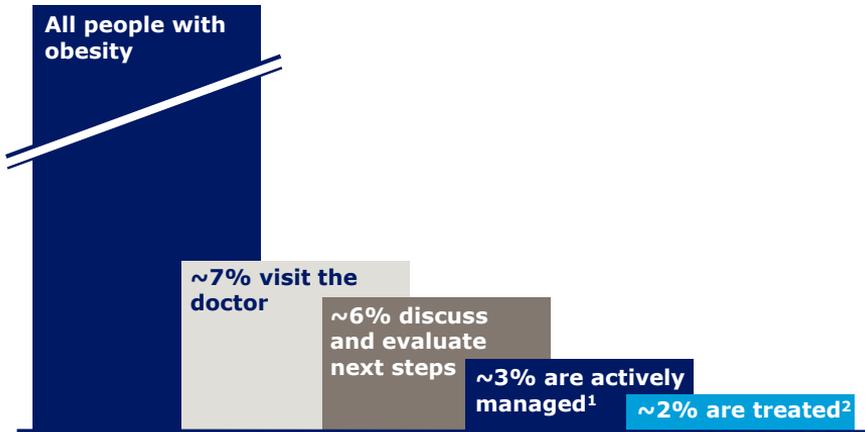
Increase in healthcare costs primarily driven by obesity-related comorbidities

- Today, 650 million people have obesity globally
- By 2025, ~1 billion people are expected to have obesity
- If left untreated, by 2025, the costs of treating complications of obesity is expected to reach USD ~550 billion in the US and USD ~1.2 trillion globally
- The increased healthcare costs are primarily driven by obesity-related comorbidities such as type 2 diabetes and cardiovascular disease

Source: WHO, October 2017; World Obesity Federation, 2017

Treatment rate is low and an increase requires a change of mindset and physician engagement

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



Key barriers to effective obesity management

Mindset

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

Few prescribers engaged

- Physicians not equipped to engage in and treat obesity

Limited patient access

- Funding and reimbursement a hurdle for physicians and patients

¹ 3% of people with obesity are regularly meeting with their doctor to follow up on a plan

² 2% of people with obesity are estimated to be treated with anti-obesity medication

Source: IQVIA (formerly IMS) MIDAS 2017

Market development initiatives focus on overcoming the barriers to effective obesity management

Change of mindset

ACTION study

- Largest study ever done amongst more than ~3,500 respondents to explore barriers to obesity treatments
- Media and online coverage

ACTION
AWARENESS, CARE & TREATMENT
IN OBESITY MANAGEMENT

Increase physician engagement

Rethink Obesity® platform

- Medical education on the science behind obesity
- Dialogue tools for physicians in countries where Saxenda® is launched

Rethink Obesity®

Improve patient access

Treat and Reduce Obesity Act

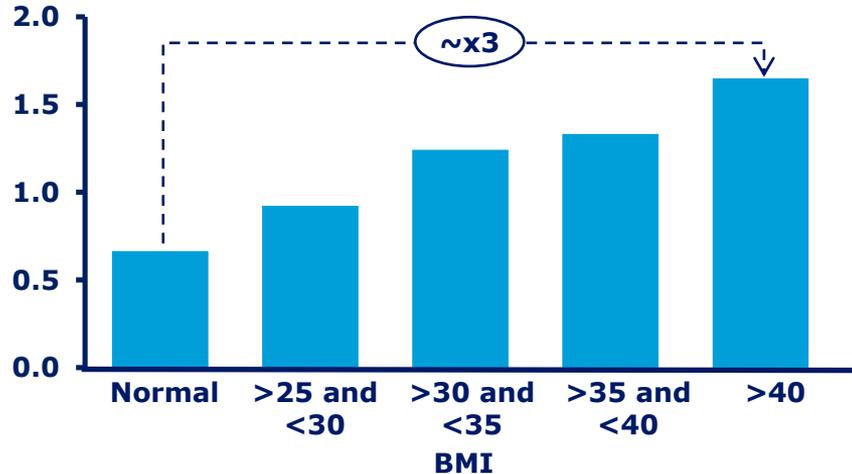
- Document the burden of obesity and activate policy makers
- Coverage of obesity medication through Medicare



Patients with high BMI and high degree of obesity-related comorbidities can benefit from Saxenda®

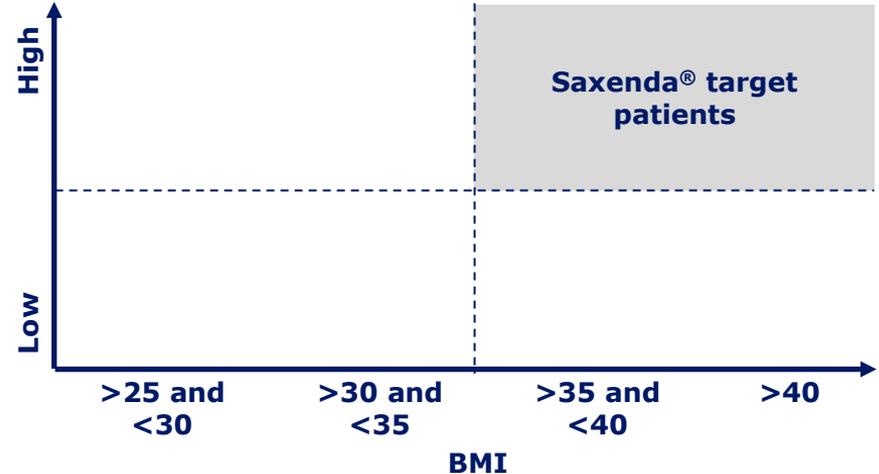
Number of comorbidities almost three-fold for people with BMI >40 vs normal weight

Average number of obesity-related comorbidities¹



Target population for Saxenda®

Prevalence of obesity-related comorbidities



¹ Comorbidities include congenital heart disease, high cholesterol, hypertension, type 2 diabetes, gall bladder disease, osteoarthritis, sleep apnoea

BMI: Body mass index

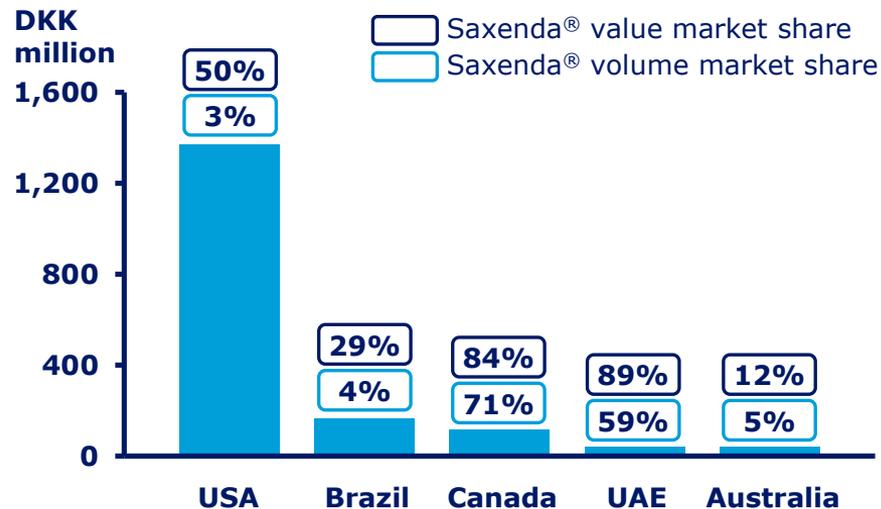
Source: NHANES in Must et al 1999 and NHANES in Li et al 2010

The US accounts for vast majority of Saxenda® sales with opportunity for further global penetration

Saxenda® launched in 24 countries



Countries with highest Saxenda® sales in 2017¹



¹ Reported sales for the first nine months of 2017
Source: IQVIA (formerly IMS) MIDAS, Sep 2017

Closing remarks

Ambitious and progressive obesity pipeline to address patient needs

Treatment rate is low and an increase requires a change of mindset and physician engagement

Saxenda® value market share leadership in key countries



novo nordisk – a focused healthcare company

**International Operations
update**

Mike Doustdar
EVP International Operations



YASMIN FIEDLER, Germany
Yasmin has type 1 diabetes

Forward-looking statements

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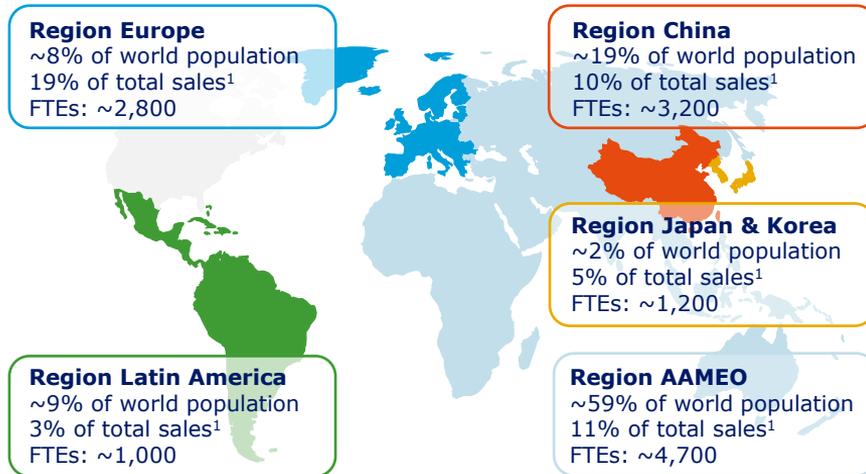
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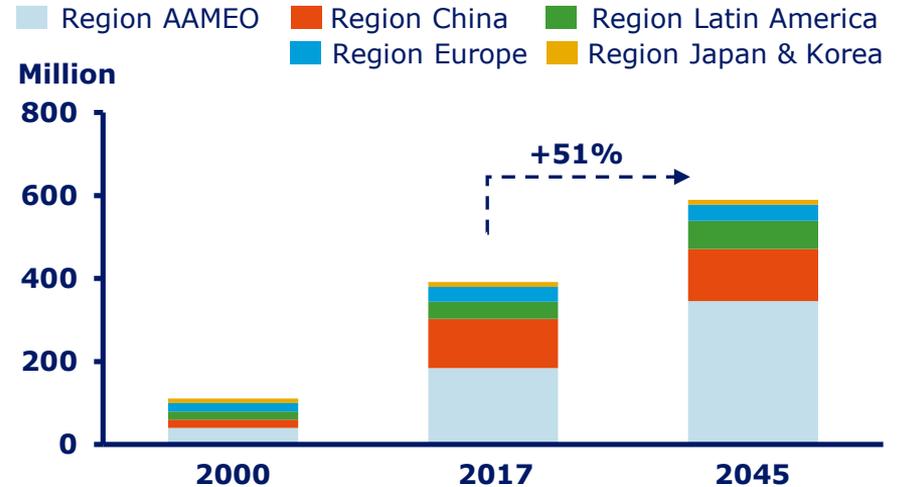
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- Saxenda® (liraglutide 3 mg) is approved in the US and EU for the treatment of obesity only

More than 90% of all people with diabetes live in International Operations

International Operations consists of five different regions



590 million people in International Operations are expected to have diabetes by 2045

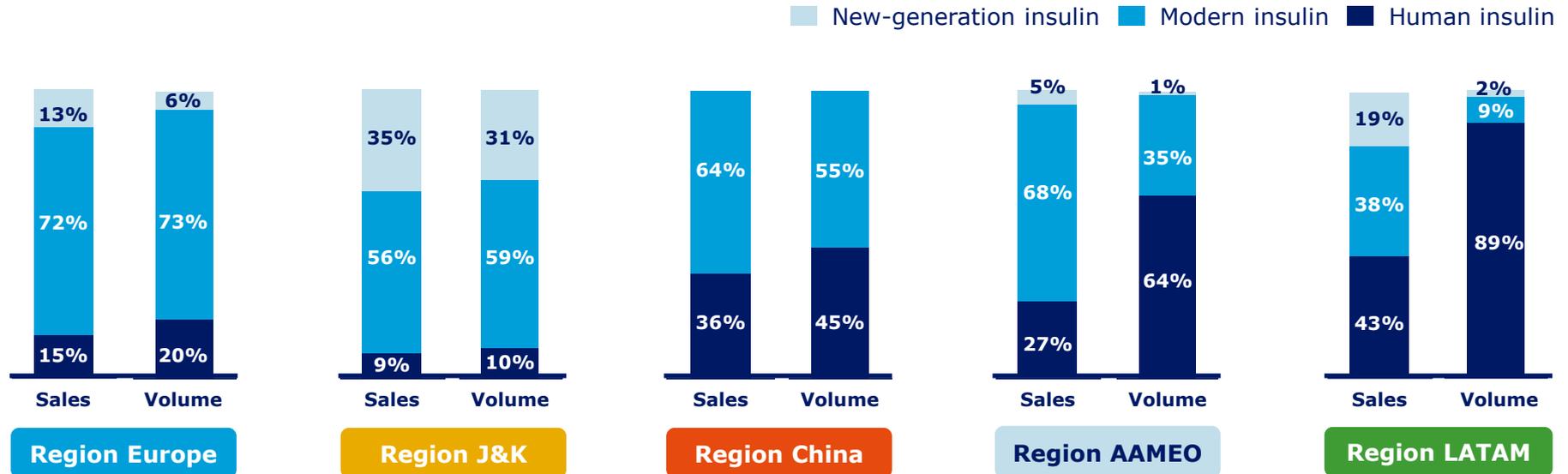


¹ Reported sales for the first nine months of 2017
 AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America; FTE: Full time equivalent
 Source: Worldometer, Oct 2017

Source: International Diabetes Federation: Diabetes Atlas 1st and 8th Edition, 2000 and 2017

The composition of insulin sales and volume differs across the regions within International Operations

Insulin sales and volume composition across regions¹



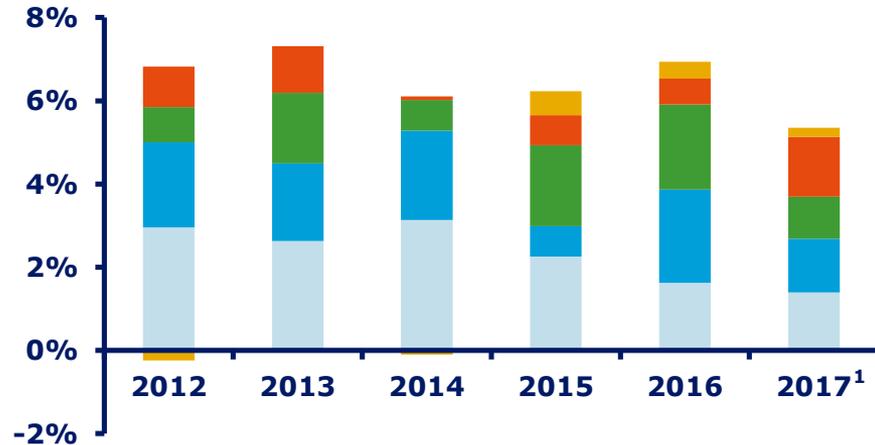
¹ Reported sales for the first nine months of 2017; Volume = Sales for the first nine months of 2017 in mega units
 J&K: Japan & Korea; AAMEO: Africa, Asia, Middle-East and Oceania; LATAM: Latin America
 Note: Numbers do not add up to 100% due to rounding

Sales growth in International Operations has historically been 5-7%, this year driven by NovoRapid® and Tresiba®

Sales growth in IO has been stable around 5-7% despite regional fluctuations¹

Region AAMEO Region Latin America

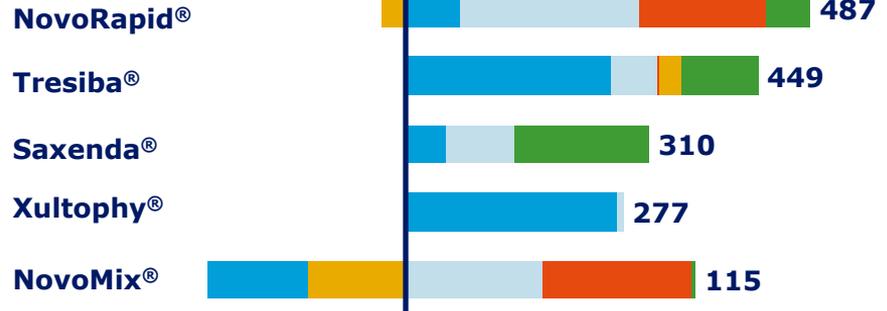
Sales growth in local currencies



Top five product growth drivers in 2017 in International Operations²

Region China Region Europe Region Japan & Korea

Sales growth (DKK million)



¹ Sales for the first nine months of 2017 in local currencies

² Reported sales for the first nine months of 2017

IO: International Operations; AAMEO: Africa, Asia, Middle-East and Oceania

Novo Nordisk aspires to outperform competition with a broad and innovate product portfolio

Market access and intensified competition are the key challenges in International Operations



Restricted market access

- Increased focus on cost containment and health technology assessments
- Use of reference pricing across regions



Intensified competition

- Several competitive products are expected to enter the diabetes market across International Operations in the coming years

Market fit and dedicated growth initiatives are in focus to outperform competition



Market fit approach

- Focus on bringing products to the market based on individual country demand and market access
- Leverage broad portfolio with three generations of insulins



Growth initiatives

- Drive additional growth through dedicated investments in growth initiatives across regions

Examples of challenges and opportunities in each of the five regions within International Operations

Region Europe

Improving market access for Tresiba® remains a key priority in Region Europe

EU approval of Tresiba® label update supports the ongoing market access negotiations ...

Market access challenge

- Market access for Tresiba® remains limited in several countries in Region Europe
- Continued negotiations with regulatory bodies need to be completed to support the market launch
- Regulatory bodies in the EU member states 1 and 2 are still in discussion with the market access team

Market access challenges for Tresiba® in the EU

Market access challenges for Tresiba® in the EU

Region Japan & Korea

Strong market uptake of Ryzodeg® in Japan has resulted in improved Novo Nordisk premix volume market share

Successful conversion of premix volume from Novolog® to Ryzodeg® in Japan

Novolog® and Novolog® will be subject to voluntary price reductions in 2018

Market access challenge

- Regulatory authorities in Japan provide a 10-year price protection to new innovative products
- After 10 years products are subject to voluntary price reduction
- Novolog® and Novolog® are subject to voluntary price reduction in 2018

Roll-out of Ryzodeg® in Japan

Roll-out of Ryzodeg® in Japan

Region AAMEO

Local commitment and investments in Iran have enabled Novo Nordisk to overcome market access challenges

Sales growth in Iran is predominantly driven by Novolog® and Novolog®

Local manufacturing strategically established in Iran to improve market access

Market access challenge

- In 2012 Novolog® and Novolog® obtained clearance for local manufacturing and export to Iran
- In 2014 a Memorandum of Understanding (MOU) for local manufacturing was signed by Novo Nordisk
- Following the MOU reimbursement for Novolog® and Novolog® was obtained

Commercial focus and growth opportunities

- Expand diabetes market leadership with modern products
- Drive Q&P in market growth with Novolog®
- Develop shared market with Novolog®

Local manufacturing in Iran to support market access

Local manufacturing in Iran to support market access

Region China

The reimbursement of Victoza® in China constitutes a significant growth opportunity

National reimbursement for Victoza® obtained in China in 2017

GLP-1 only accounts for 5% of the value in the Chinese diabetes care market

Market access challenge

- Victoza® is not covered by insurance
- Victoza® is not covered by insurance
- Victoza® is not covered by insurance

Commercial focus and growth opportunities

- Expand diabetes market leadership with modern products
- Drive Q&P in market growth with Victoza®
- Develop shared market with Victoza®

Victoza® obtained national reimbursement in China

Victoza® obtained national reimbursement in China

Region Latin America

The successful roll-out of Saxenda® in Brazil continues and the value market share is 29% after 15 months

The Saxenda® volume sold in Brazil since launch is similar to the volume sold in the US

Dedicated investments in building the obesity market in Brazil with local initiatives ...

Market access and market share

- No reimbursement in Germany
- Reimbursement in market share 20%
- Reimbursement in market share 4%

Commercial activities

- Expansion of obesity clinical data base
- Establishment of obesity clinics
- Development of educational campaigns to attract and drive patient engagement and disease awareness

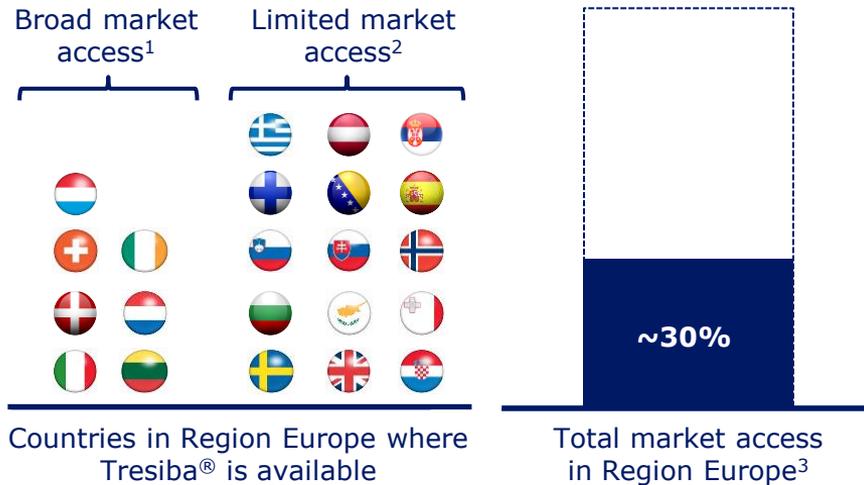
Saxenda® is driving sales growth in Brazil

Saxenda® is driving sales growth in Brazil

AAMEO: Africa, Asia, Middle-East and Oceania

Improving market access for Tresiba® remains a key priority in Region Europe

Modest market access for Tresiba® in Region Europe despite being launched in 22 countries



¹ Countries with broad market access have a market access rate of 80% or above

² Countries with limited market access have a market access rate below 80%

³ Market access rate estimated as proportion of total market volume in Region Europe

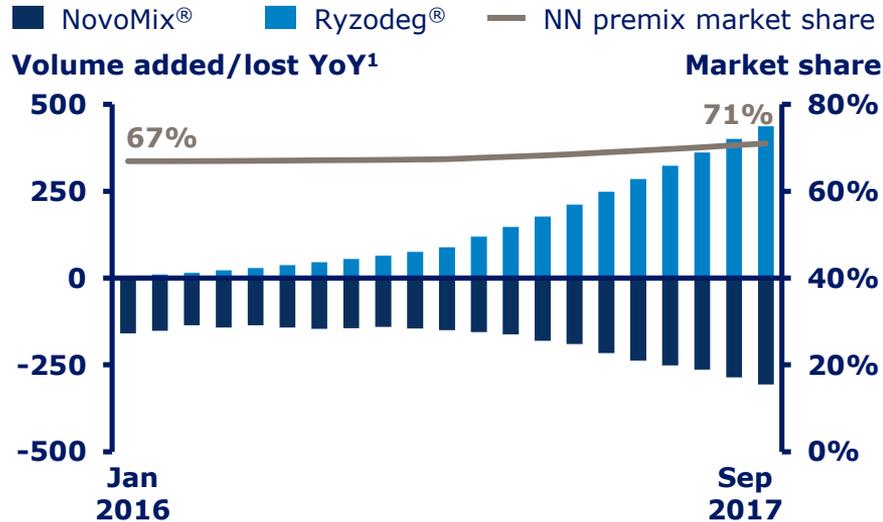
EU approval of Tresiba® label update supports the ongoing market access negotiations

Market access challenge

- Market access for Tresiba® is currently limited or restricted in several countries in Region Europe
- Ongoing negotiations with payers could lead to improved market access during 2018
- Negotiations are supported by the recent Tresiba® label update in the EU where both SWITCH 1 and 2 as well as DEVOTE data have been included in the label

Strong market uptake of Ryzodeg® in Japan has resulted in improved Novo Nordisk premix volume market share

Successful conversion of premix volume from NovoMix® to Ryzodeg® in Japan



¹ Year-on-year change in volume

NN: Novo Nordisk

Source: IQVIA (formerly IMS) rolling MAT volume, Sep 2017; MS% rolling MAT volume, Sep 2017

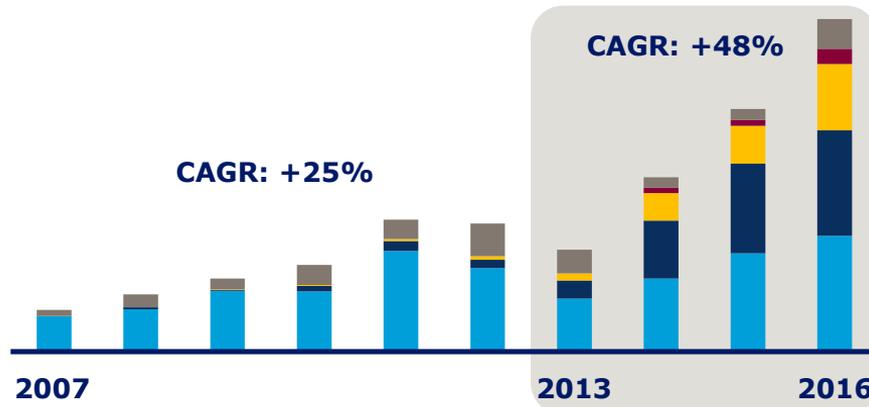
NovoRapid® and NovoMix® will be subject to statutory price reductions in 2018

Market access challenge

- Regulatory authorities in Japan provide a 15-year price protection to new innovative products
- After 15 years products are subject to a statutory price reduction
- NovoRapid® and NovoMix® are subject to statutory price reductions in 2018

Local commitment and investments in Iran have enabled Novo Nordisk to overcome market access challenges

Sales growth in Iran is predominantly driven by NovoMix® and NovoRapid®



Local manufacturing strategically established in Iran to improve market access

Market access

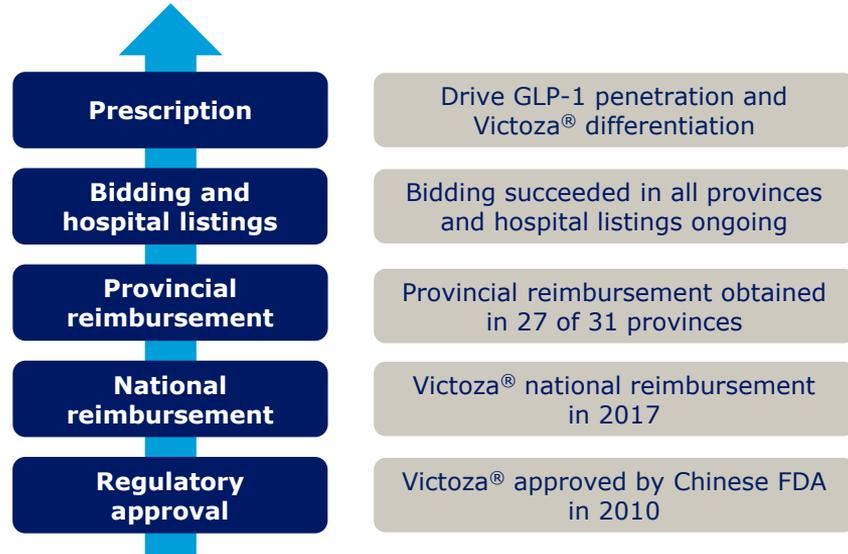
- In 2013, NovoMix® and NovoRapid® obtained coverage by three main insurance companies in Iran
- In 2015, a Memorandum of Understanding (MoU) for local manufacturing was signed by Novo Nordisk
- Following the MoU, reimbursement for Levemir® and Victoza® was obtained

Commercial focus and growth opportunities

- Expand diabetes market leadership with modern insulins
- Drive GLP-1 market growth with Victoza®
- Develop obesity market with Saxenda®

The reimbursement of Victoza® in China constitutes a significant growth opportunity

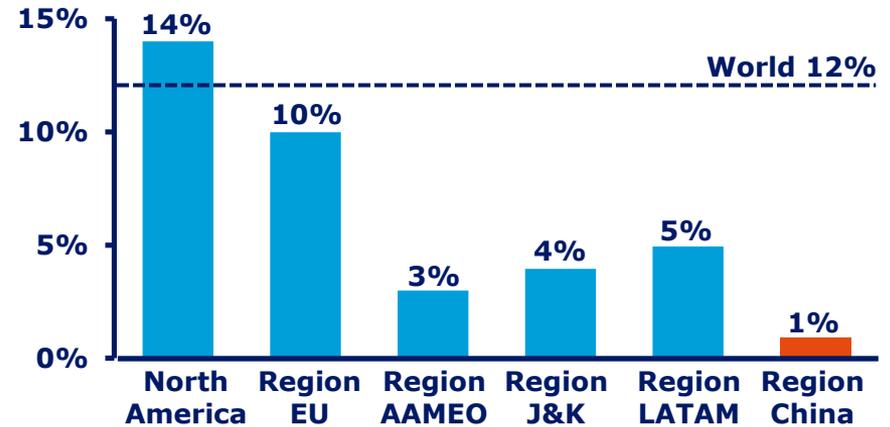
National reimbursement for Victoza® obtained in China in 2017



FDA: Food and Drug Administration

GLP-1 only accounts for 1% of the value in the Chinese diabetes care market

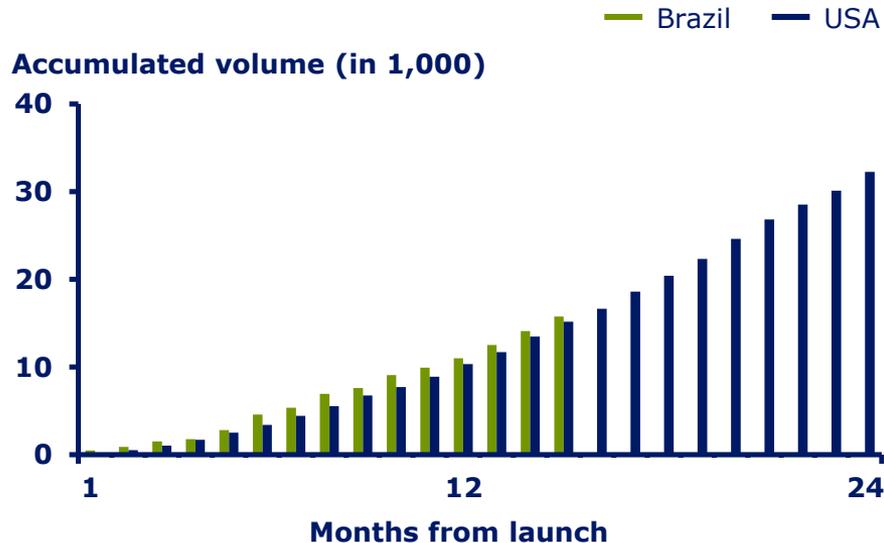
GLP-1 value share of total diabetes market



EU: Europe; AAMEO: Africa, Asia, Middle-East and Oceania; J&K: Japan & Korea;
LATAM: Latin America
Source: IQVIA (formerly IMS) rolling MAT value, Sep 2017

The successful roll-out of Saxenda® in Brazil continues and the value market share is 29% after 15 months

The Saxenda® volume sold in Brazil since launch is similar to the volume sold in the US



Dedicated investments in building the obesity market in Brazil with local initiatives

Market access and market share

- No reimbursement for Saxenda®
- Saxenda® value market share: 29%
- Saxenda® volume market share: 4%

Commercial activities

- Expansion of dedicated obesity sales force
- Establishment of obesity clinics
- Development of commercial partnerships to activate and drive patient engagement and disease awareness

Source: IQVIA (formerly IMS) rolling MAT value, rolling MAT volume, Sep 2017

Closing remarks

Sales growth in International Operations has been stable around 5-7% the last five years

Improving market access for Tresiba® is a key priority in Region Europe

Local investments can enable Novo Nordisk to overcome market access challenges

Reimbursement of Victoza® in China constitutes a significant growth opportunity



ANTHONY ANDERSON, USA
Anthony has type 2 diabetes

novo nordisk – a focused healthcare company

US update

Doug Langa

EVP North America Operations
and President Novo Nordisk Inc

David Moore

SVP US Commercial



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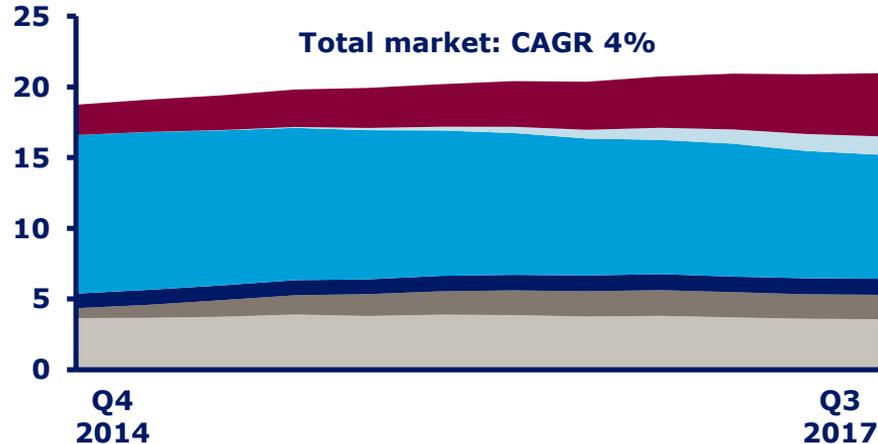
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Growth of US diabetes care market is driven by novel treatment options

US diabetes care market is growing modestly despite declining modern insulin sales

DPP-IV SGLT-2 Human insulin

Reported US diabetes care sales¹ (USD billion)

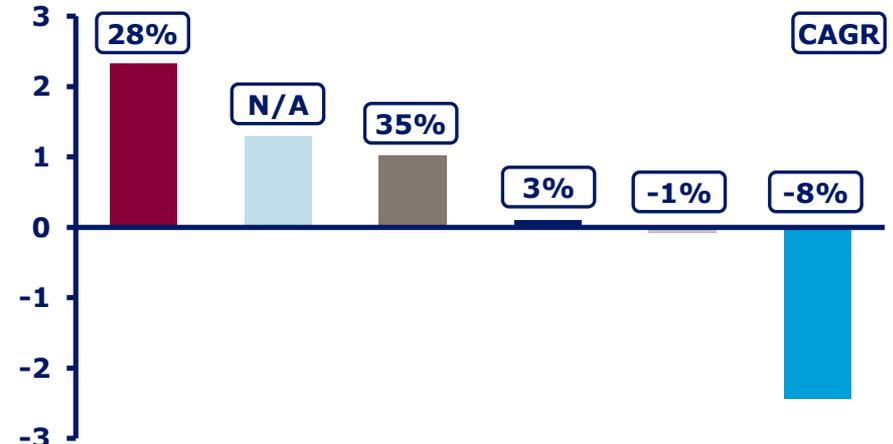


¹ Moving annual total based on company reported quarterly sales covering 26 brands estimated to comprise ~95% of US diabetes care sales based on data from IQVIA (formerly IMS) MIDAS, Sep 2017

GLP-1 is largest contributor to diabetes care growth followed by new-generation insulin

Modern insulin New-generation insulin GLP-1

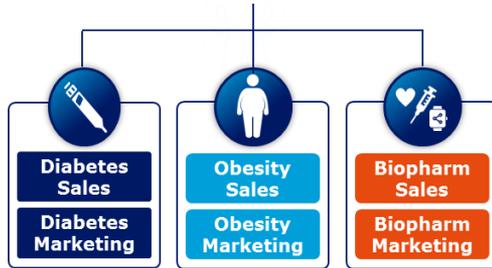
Growth by segment 2014-2017 (USD billion)



Note: New-generation insulin includes Tresiba®, Xultophy®, insulin glargine U300 and iGlarLixi

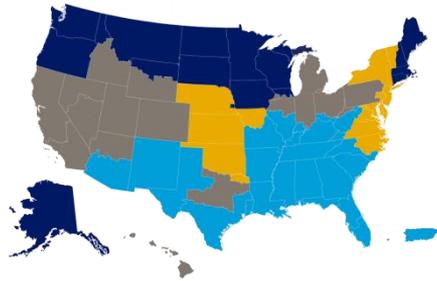
Integration, localisation and focus are key for Novo Nordisk to succeed in the growing diabetes and obesity care market

Integrate



Aligning functions for stronger commercial execution

Localise



Tailoring approach to local needs in a heterogeneous market

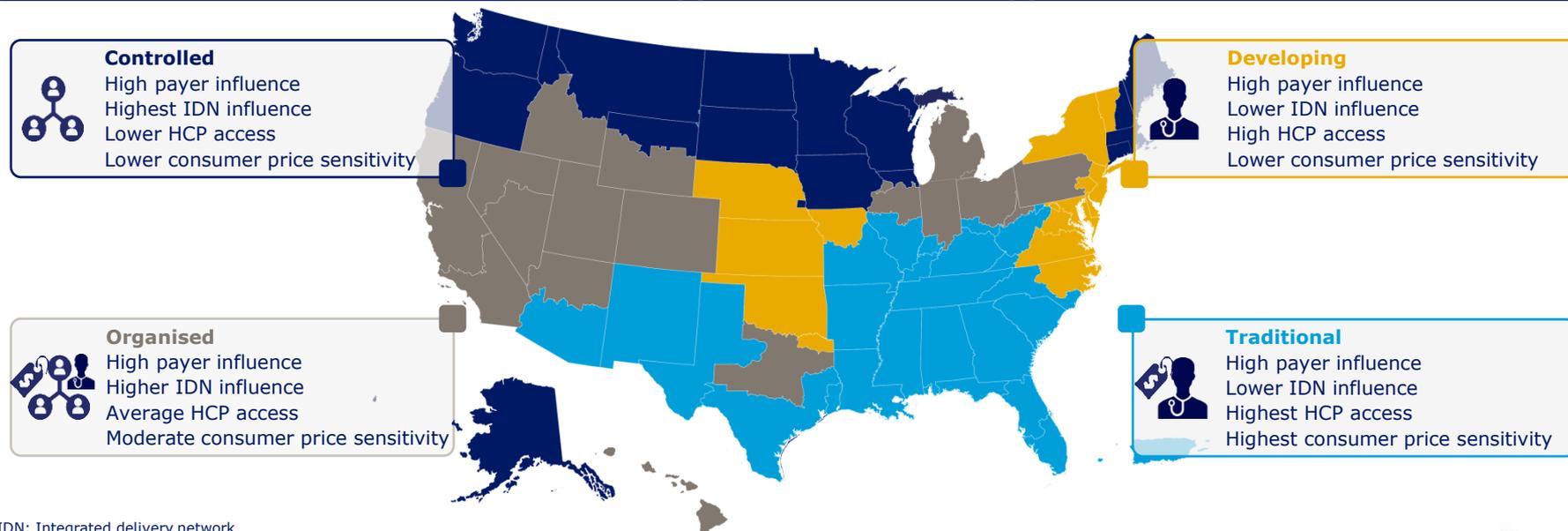
Focus

semaglutide
VICTOZA[®]
TRESIBA[®]
Saxenda[®]

Dedicating resources to our largest opportunities

Succeeding in the US market requires a localised approach to serve the needs of a heterogeneous healthcare system

Different geographies have distinct local healthcare systems and different approaches must be applied



IDN: Integrated delivery network
HCP: Healthcare professional

Succeeding in the US market requires a localised approach to serve the needs of a heterogeneous healthcare system

Local leadership given discretion on how to market brands and invest differentially



Boston, Massachusetts – Controlled

- Develop **relationships with key IDN stakeholders** to understand broader organisational goals
- Emphasis on **patient outcomes, treatment protocols** and **patient/disease management**
- **Develop payer relationships** and reinforce formulary positioning



Birmingham, Alabama – Traditional

- High level of face-to-face interaction between physicians and sales representatives given high **physical access to HCPs**
- Focus on **patient/disease management** and **clinical information** with prescribers
- Focus on **management of cost** for consumers
- Develop **payer relationships** and reinforce formulary positioning

IDN: Integrated delivery network
HCP: Healthcare professional

Novo Nordisk is focusing on three must-win battles to succeed in the US diabetes and obesity care market

Grow volume share
in the basal insulin market



TRESIBA

Grow value share
in the GLP-1 market



VICTOZA
semaglutide

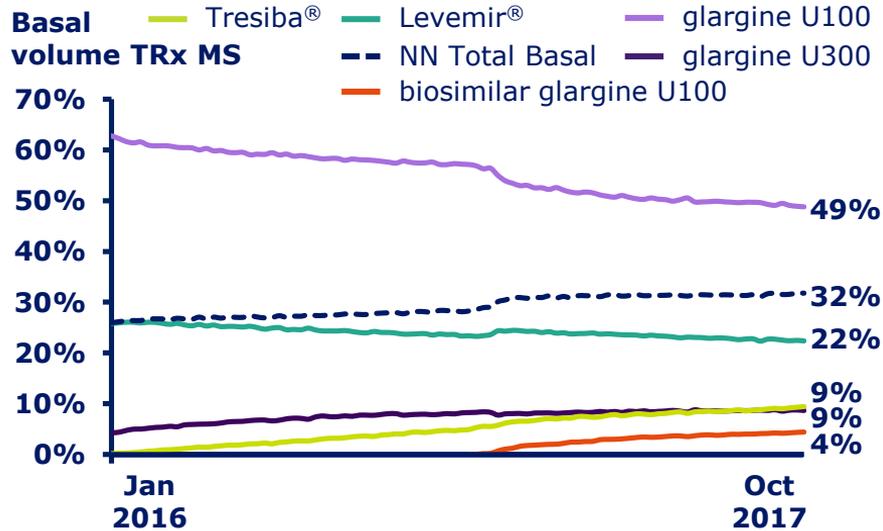
Grow the US obesity market



Saxenda

Steady market share gains for Tresiba® with contract win and increased focus offering opportunity for further growth

Basal insulin market share development since Tresiba® launch



Note: The graph does not show NPH, which accounts for the residual market share
 TRx volume: Insulin volume in mega units associated with total number of prescriptions;
 MS: Market share
 Source: IQVIA (formerly IMS) weekly Xponent Plantrak (excludes Medicaid), 27 Oct 2017

Actions taken to drive further market share gains for Tresiba® in 2018

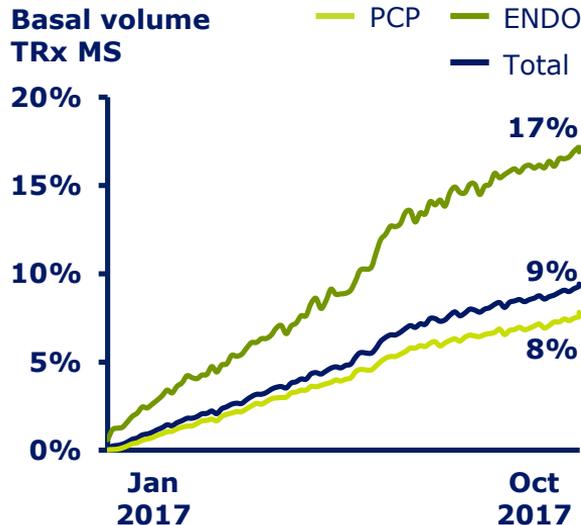
- Tresiba® TRx volume market share is now 9.4%
- Recently announced changes to the formulary access of competing basal insulins offer unique opportunity for Tresiba® to grow volume market share in 2018
- Dedicated sales force to exclusively promote Tresiba® in 2018
- Increased focus on establishing the understanding of the impact of hypoglycaemia and the need to treat to avoid hypoglycemia to increase preference for Tresiba®

Source: IQVIA (formerly IMS) weekly Xponent Plantrak (excludes Medicaid), 27 Oct 2017



Adoption of Tresiba® higher among endocrinologists as avoiding hypoglycaemia is a key prescription driver

Tresiba® market share development since launch



Prescription drivers - Endocrinologist vs PCP

ENDO	PCP
1 Low intra-patient variability	1 Confidence in the product
2 Flat and stable profile	2 Comfortable prescribing
3 Fits patient lifestyle	3 Fits patient lifestyle
4 Confidence in the product	4 Simple option
5 Lower overall hypoglycaemia	5 Pen simplicity/functionality

Focus on importance of reducing hypo risk is crucial



Note: Highlighted prescription drivers related to reduction in hypoglycaemia

TRx volume: Insulin volume in mega units (MU) associated with total number of retail prescriptions; MS: Market share; ENDO: Endocrinologist; PCP: Primary care physician; Hypo: Hypoglycaemia
Source: IQVIA (formerly IMS) weekly Xponent Plantrak (excludes Medicaid), 27 Oct 2017; IPSOS Basal insulin Awareness, Trial and Usage study Q3-2017: N=200 US physicians, of whom 100 are primary care, 100 are endocrinologists

CV launch in the US as Victoza® is now indicated to reduce the risk of major cardiovascular events as the only GLP-1

Campaign linking HbA_{1c} and the life saving CV benefit of Victoza® launched



Engagement of key stakeholders to drive increased Victoza® uptake based on CV benefit



Patients

'Heart of Type 2' disease awareness campaign rolled-out to drive understanding of the link between T2D and CV risk



Physicians

Promotion aiming to establish CV risk reduction as a key driver for prescription and increasing advocacy from cardiologists



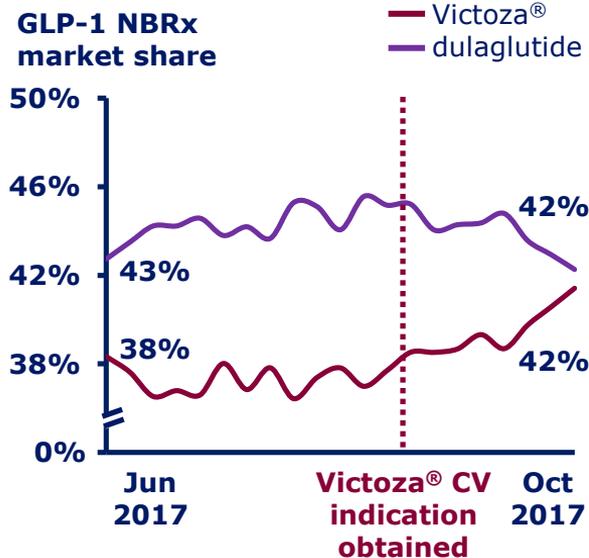
Payers

Engaging payers with the improved Victoza® value proposition following the CV indication being granted

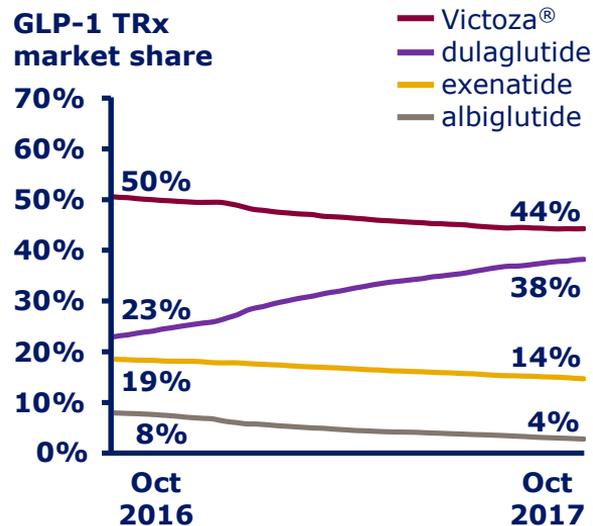
Note: Victoza® is indicated to reduce the risk of major adverse cardiovascular events in adults with type 2 diabetes and established cardiovascular disease
CV: Cardiovascular; T2D: Type 2 diabetes

Increased Victoza® NBRx after CV launch, while once-weekly growth remains high with large opportunity for semaglutide

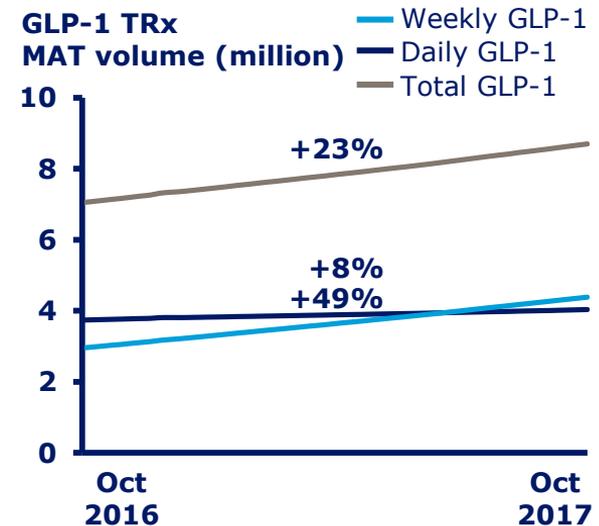
Strong Victoza® NBRx growth following label update



Further NBRx growth required to defend total market share



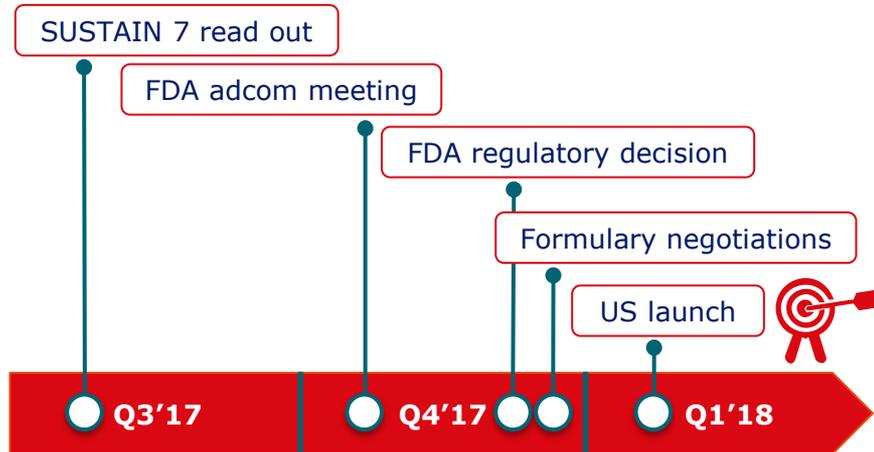
Growth of once-weekly GLP-1 remains high



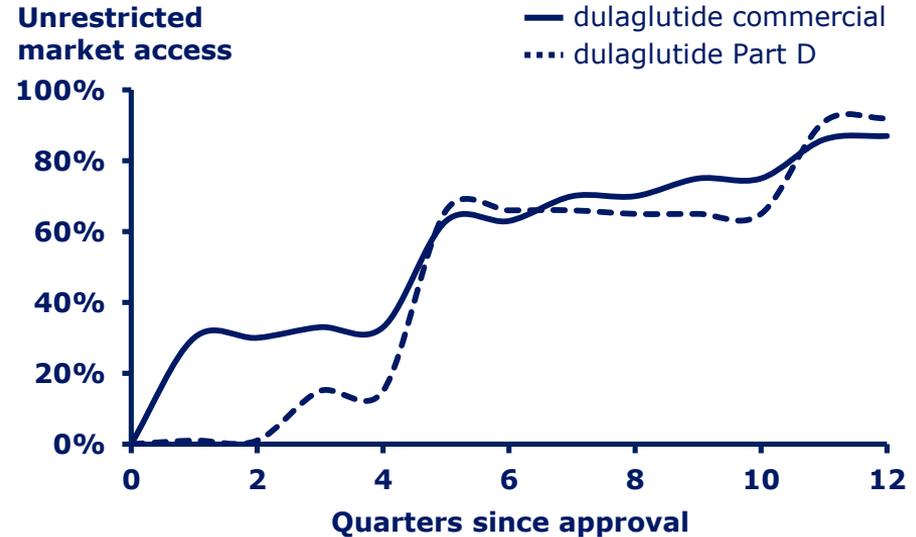
CV: Cardiovascular; NBRx: New-to-brand prescriptions; TRx: Total prescriptions; MAT: Moving annual total
Source: IQVIA (formerly IMS) LRx and NPA, weekly data, 27 Oct 2017 (TRx market share is measured as a 4-week rolling average)

Semaglutide expected to launch in the US in Q1 2018 with promotion intensifying as market access emerges

Semaglutide to be launched in the US in the first quarter of 2018, pending approval



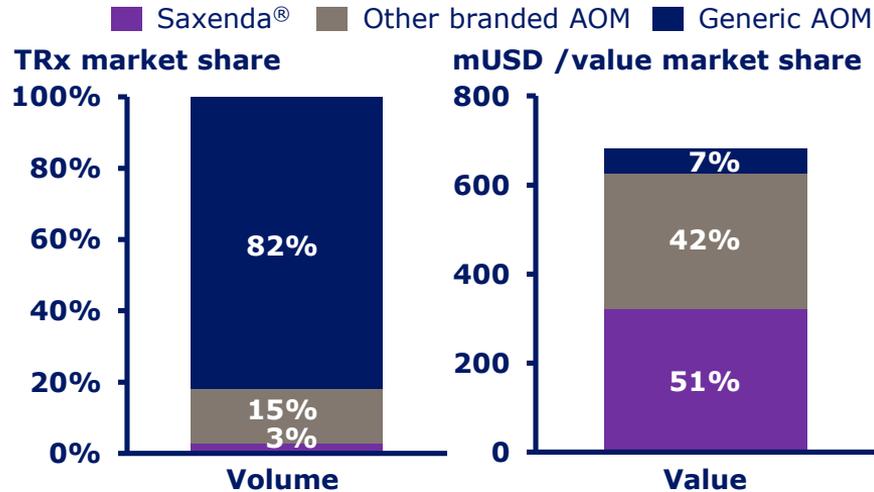
Semaglutide market access expected to improve gradually similar to other weekly GLP-1



Source: Fingertip Formulary bridge, Jan 2015, Jun 2015, Jan 2016, Jul 2016, Jan 2017, May 2017, Jul 2017, Aug 2017, Sep 2017

Saxenda® has rapidly grown value market share, but market development efforts are required to expand the market

Despite strong Saxenda® growth, US obesity care market remains small at USD ~700 million



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

	Current state	Key initiatives
Mindset	Acute weight loss focus with Saxenda® stay-time ~5 months	Advocate for chronic treatment through partnerships
Few prescribers engaged	Less than 3,000 physicians write ≥10 AOM prescriptions per month	Launch obesity educator programme
Limited patient access	Only 2 in 5 of ~95 million adults with obesity have access to reimbursed medication	Obtain Medicare coverage through support of "Treat and Reduce Obesity Act"

AOM: Anti-obesity medication; TRx: Total prescriptions
Source: IQVIA (formerly IMS) NSP and NPA moving annual total, Sep 2017

Closing remarks

Integration, localisation and focus are imperative for Novo Nordisk to succeed in the US market

Tresiba® growth to be sustained with increased hypoglycaemia focus and dedicated sales force

GLP-1 leadership to be maintained with Victoza® CV indication and launch of semaglutide

Saxenda® continues to grow, but market development is needed to expand the obesity market

CV: Cardiovascular



novo nordisk – a focused healthcare company

Biopharm dynamics

Christian Kanstrup
SVP Biopharm operations

Mads Krogsgaard Thomsen
EVP and Chief Science Officer



ADMIRE MUSHURWA, UK
Admire has haemophilia A with inhibitors

Forward-looking statements

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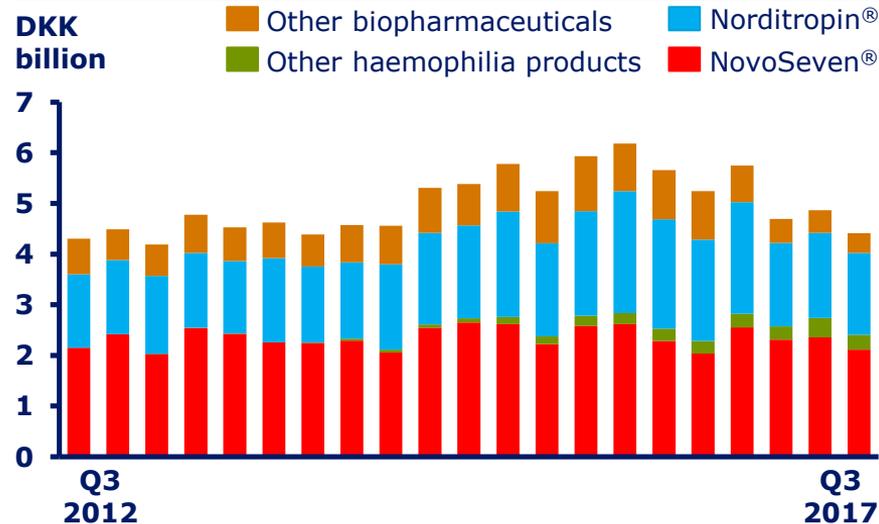
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Biopharm constitutes 17% of Novo Nordisk sales and a strategy has been defined to return to growth

**NovoSeven® and Norditropin®
account for 84% of Biopharm sales¹**



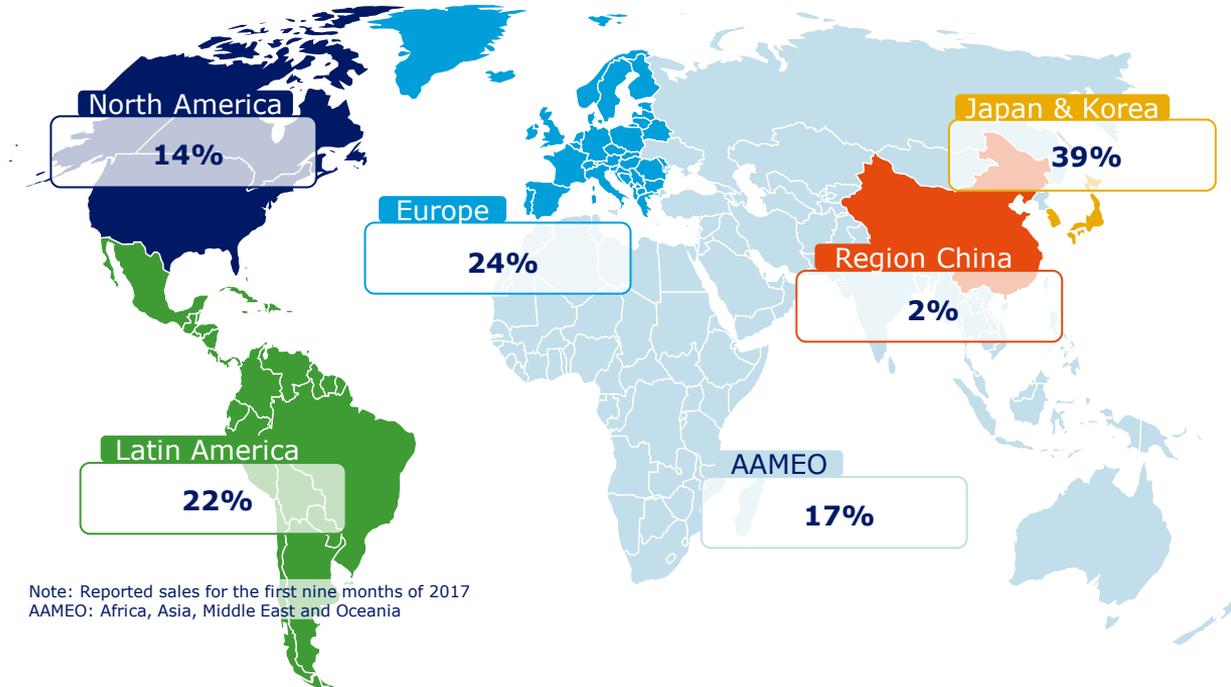
'Return to Growth' strategy builds on organic, non-organic and organisational initiatives



¹ Reported sales for the first nine months of 2017

Unique characteristics of individual markets represent different opportunities and challenges

Biopharm share of regional sales differs by region

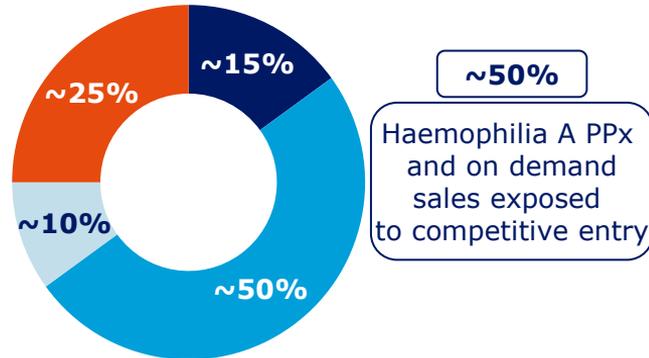


Key regional differences

- 1 Reimbursement**
Tender vs non-tender market and public vs private market
- 2 Diagnosis and treatment rate**
- 3 Treatment choice**
eg prophylaxis vs on demand
- 4 Indicated use of products**
- 5 Plasma derived vs recombinant products**
- 6 Availability of home treatment**

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

Estimated NovoSeven® sales by indication¹



NovoSeven® sales of DKK 6.8 billion³

Opportunities and challenges for NovoSeven® franchise

Challenge

- Emicizumab expected to be launched imminently leading to intensified competition in the segment for haemophilia A with inhibitors

Opportunities

- Maintain position as preferred agent for all bleeds including breakthrough bleeds for patients on prophylactic treatment
- Improving diagnosis and treatment of select indications outside of haemophilia A with inhibitors with special focus on acquired haemophilia
- Drive development of NovoSeven® franchise in underdeveloped Chinese market following inclusion on National Drug Reimbursement List

¹ Based on internal Novo Nordisk estimate

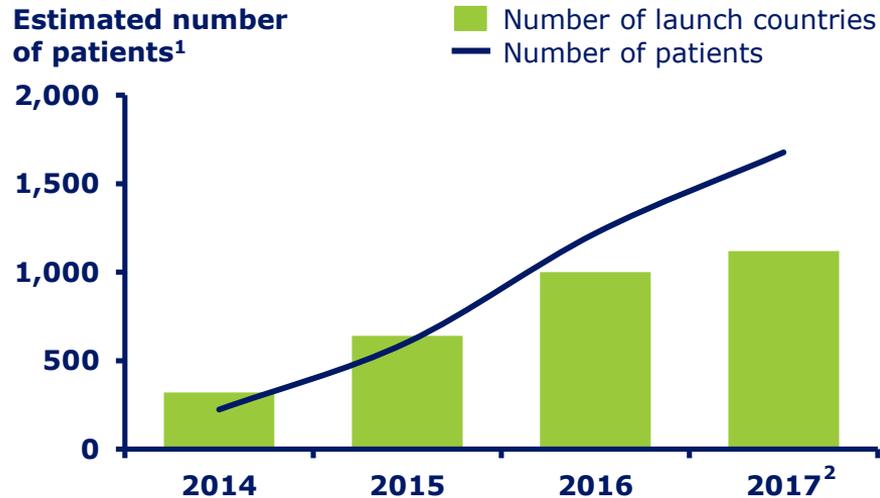
² Other indications include areas like acquired haemophilia, Glanzmann's thrombastenia and congenital FVII deficiency

³ Reported sales for the first nine months of 2017

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

NovoEight® volumes continue to grow despite increasing penetration of long-acting FVIII products

NovoEight® roll-out continues and the number of patients has steadily increased



¹ Novo Nordisk estimated accumulated patient number

² Novo Nordisk estimated accumulated patient number as of October 2017
FVIII: Coagulation factor VIII

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

Competitive positioning for NovoEight®

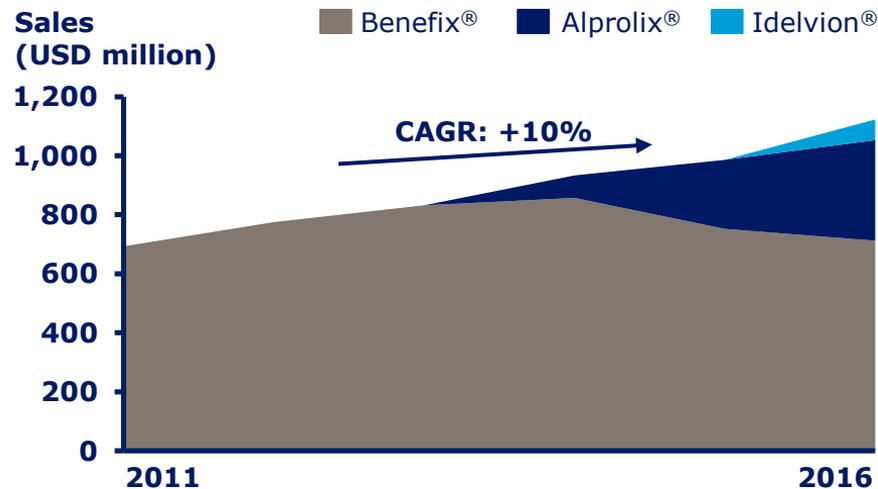
- Temperature stability at high room temperature and best-in-class portability
- Uptake driven by Novo Nordisk's strong customer focus and company recognition within the haemophilia community
- Continued volume growth especially in less mature markets with tender opportunities, despite increasing penetration of long-acting FVIII products

Next generation

- N8-GP expected to be filed in 2018
- Global roll-out of NovoEight® and N8-GP to pave the way for subcutaneous N8-GP

Strong growth among long-acting haemophilia B products as Refixia®/Rebinyn® is set for launch in the EU and the US

Reported recombinant FIX sales



Refixia®/Rebinyn® launched in first countries

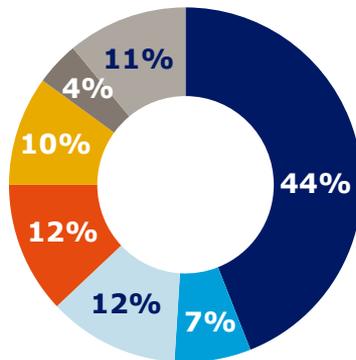
- Launched in the first EU countries in 2017, US launch expected in the first quarter of 2018
- Refixia®/Rebinyn® offers a unique clinical profile that brings factor levels into the non-haemophilia range for adults and adolescents
- Dialogue ongoing with the FDA and EMA to establish path forward to obtain routine prophylaxis indication in the US and complete paediatric indication in Europe to include children younger than 12 years old

FIX: Coagulation factor IX
Source: Company reports (Does not include Rixubis® as sales are not reported separately)

FDA: US Food and Drug Administration; EMA: European Medicines Agency
rFIX: Recombinant coagulation factor IX

Novo Nordisk well-positioned to remain the leader in the DKK 18 billion human growth deficiency market

Norditropin® has a broad label covering most indications in the growth deficiency market



Market for growth deficiencies (volume share)

Ease of use and less frequent dosing key to drive adherence and product preference

Today

Saturated market with competitive pricing due to limited differentiation among marketed products

Device/product characteristics supporting ease of use and adherence are main differentiators between marketed products

Future

Further broadening of Norditropin® indication

Introduction of **extended half-life compounds** such as **somapacitan** with key benefits providing:

 Once-weekly dosing vs once-daily

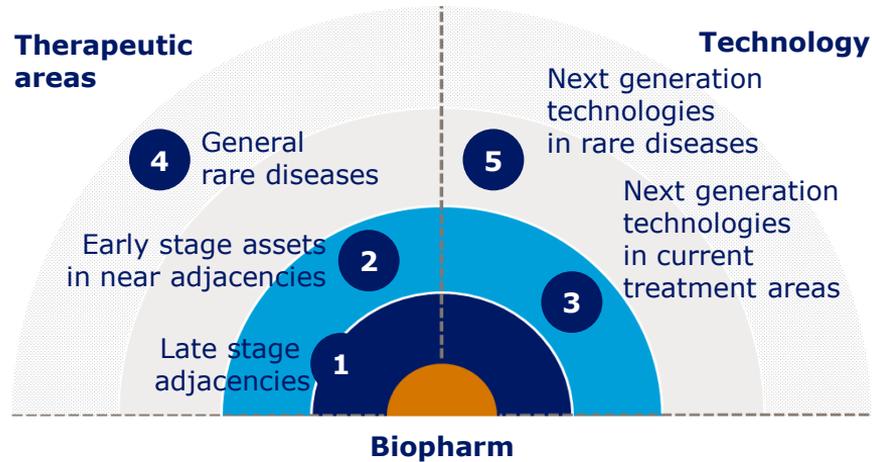
 Convenient subcutaneous administration

 Potential for increased adherence to therapy

¹ Others predominantly comprised of Prader-Willi syndrome and chronic renal insufficiency
GHD: Growth hormone deficiency; AGHD: Adult growth hormone deficiency; ISS: Idiopathic Short Stature
Source: Growth Hormone Therapy Market Sizing, Adivo Associates, June 2016

Continued search for bolt-on acquisitions and in-licensing to support 'Return to Growth' strategy

Aim to identify bolt-ons and partnerships in adjacent areas



Relation to present business: Core  Non-core

Bolt-on acquisitions needed to support return to growth and help build strategic capabilities

- Organic growth initiatives not expected to satisfy mid-term growth ambitions
- Increased focus on both in-licensing and bolt-on acquisition opportunities to drive growth
- Transitioning from opportunistic to strategic approach for external sourcing
 - Systematic scans performed
 - Disease area specific strategies in development

Biopharm R&D efforts reflect Novo Nordisk's commitment to satisfy unmet patient needs

Aim to develop subcutaneous haemophilia products and long-acting growth hormone

Pursue leadership in **HAEMOPHILIA**



Pursue subcutaneous delivery of long-acting coagulation factors and bypassing agents

Strengthen leadership in **GROWTH DISORDERS**



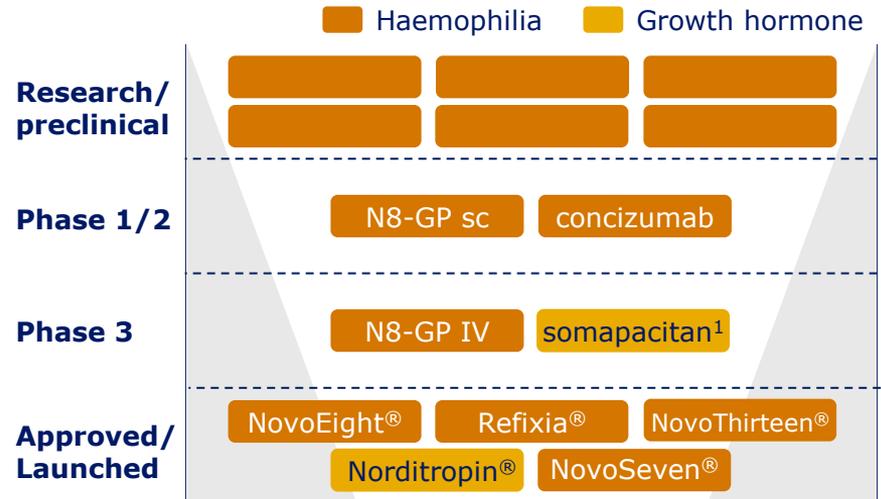
Bring long-acting growth hormone somapacitan to market and expand indications

Pursue **bolt-on opportunities**



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

Novo Nordisk Biopharm portfolio

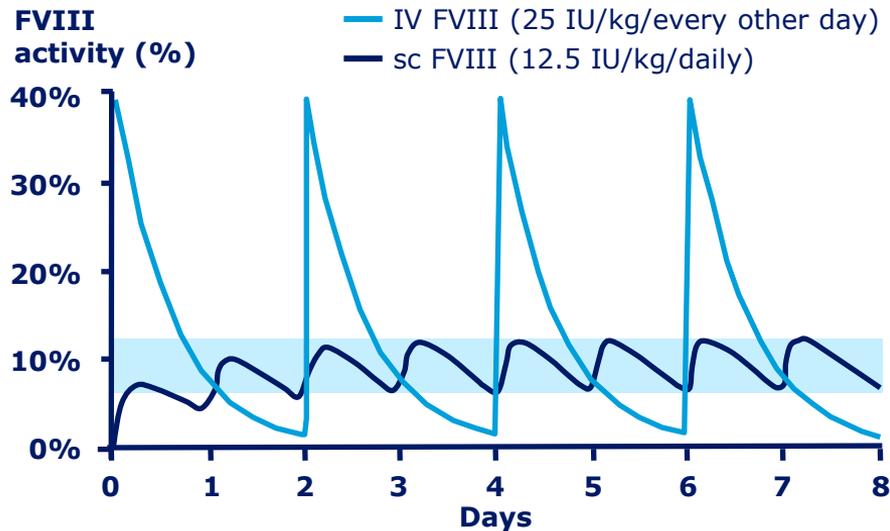


¹ Somapacitan is currently in phase 3 for adult growth hormone deficiency and phase 2 for growth hormone deficiency in children

Note: NovoThirteen® and Refixia® are the brand names in the majority of countries, whereas these products are marketed as TRETEN® and Rebinyn® respectively in the US
sc: Subcutaneous; IV: Intravenous

Subcutaneous N8-GP holds the potential to become first FVIII replacement product for subcutaneous delivery

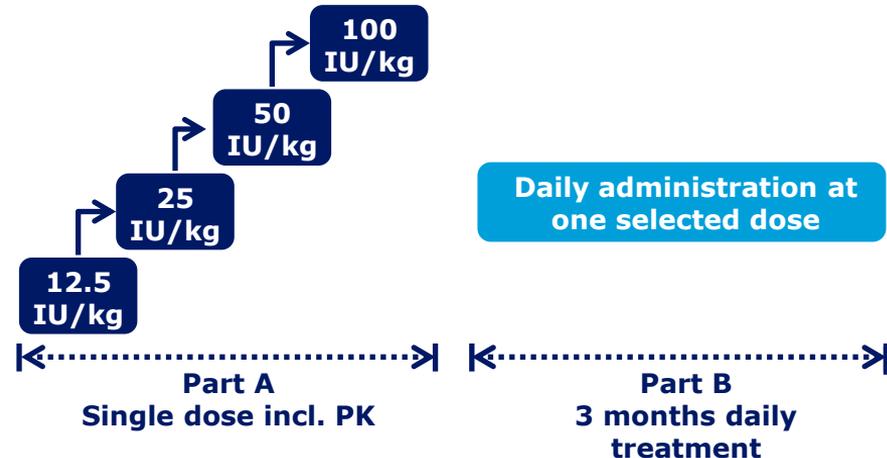
Human pharmacokinetic model of subcutaneous N8-GP



sc: Subcutaneous, IV: Intravenous; FVIII: Coagulation factor VIII
Source: Novo Nordisk data on file

Phase 1/2 trial with sc N8-GP evaluates safety and PK of single and multiple doses

48 patients
with haemophilia A

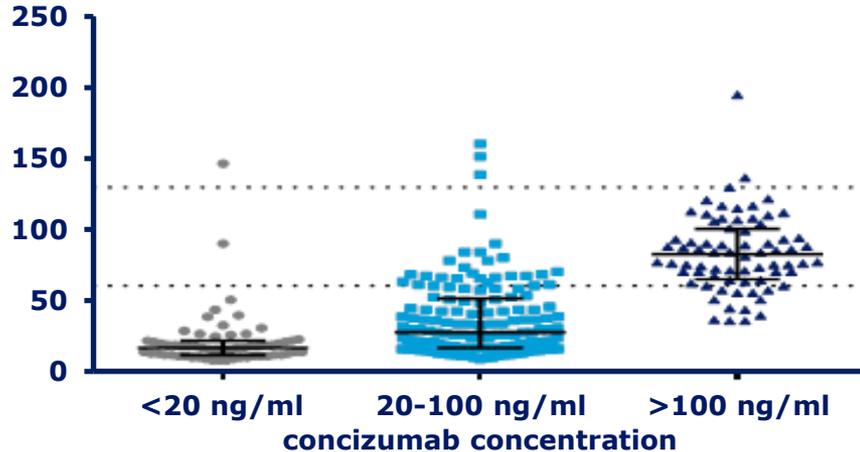


Note: Inclusion criteria: Haemophilia A with 150 efficacy doses (previously treated patients), 18 years and above (part A), 12 years and above (part B), no current or history of inhibitors
IU: International unit; PK: Pharmacokinetics

Encouraging concizumab results with positive efficacy trends observed in blinded multiple dose phase 1 trial

Thrombin levels appeared exposure dependent in phase 1 trial

Peak thrombin level (nM)



nM: Nanomolar; ng/ml: Nanogram/milliliter

Source: explorer 3 study, International Society on Thrombosis and Haemostasis 2017 Congress, Eichler et al., LB 01.2

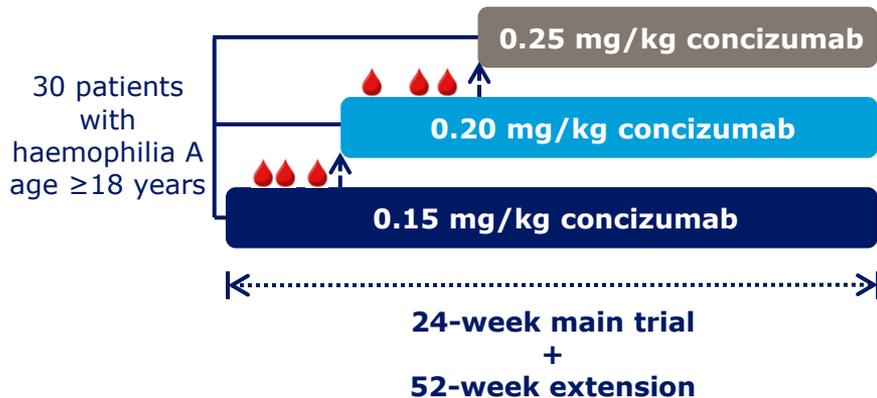
Safety profile confirmed in phase 1 trial

- Changes in coagulation parameters were observed at highest exposure levels, consistent with activation of the coagulation and fibrinolytic pathways
- No safety signals or serious adverse events were observed in the trial and no events led to withdrawal
- No anti-concizumab antibodies were detected in any patient

Ongoing phase 2 proof-of-concept trial for concizumab in haemophilia patients with and without inhibitors

explorer 5: Phase 2 haemophilia A trial with concizumab administered sc once-daily

🔴 Bleeding episode ⬆️ Dose escalation to next dose level



Note: Dose escalation criteria: 1. Increase to next dose level of concizumab if >2 bleeding episodes occur within 12 weeks of treatment with current dose level, 2. Markers will guide the decision, monitored by the data monitoring committee and principal investigator, 3. Dose escalation at next scheduled visit
sc: Subcutaneous

Trial objectives and endpoints

explorer 5

- Establish safety profile and clinical proof of concept
- Provide evidence that concizumab efficacy is on par with current replacement therapy

explorer 4

- Phase 2 trial also initiated with concizumab in 24 patients with haemophilia A and B with inhibitors age ≥18 years to establish safety, including treatment of bleeds with rFVIIa, and clinical proof of concept
- Patients will be treated with rFVIIa in addition to concizumab to test safety of co-use

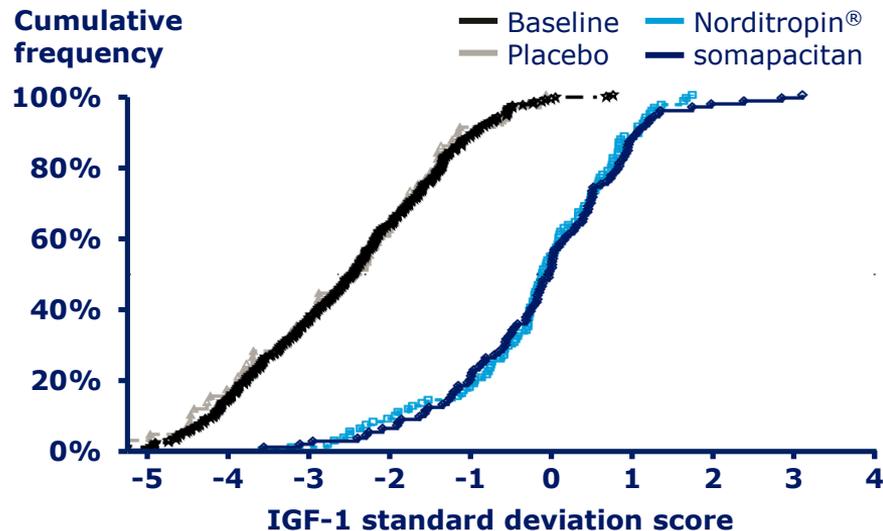
Next steps

- Phase 2 trials to conclude in the second half of 2018 followed by extension phase and phase 3 decision

rFVIIa: Recombinant coagulation factor VII activated

Phase 3 extension trial in adults and phase 2 trial in children for once-weekly somapacitan to conclude in 2018

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



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

Phase 3a AGHD trial successfully completed, phase 2 GHD read-out expected in 2018



Note: Filing for first indication (AGHD) expected in 2018
GHD: Growth hormone deficiency; SGA: Small for gestational age

Closing remarks

NovoEight[®], N8-GP and Refixia[®]/Rebinyn[®] sales growth expected to partly offset NovoSeven[®] sales erosion

Subcutaneous N8-GP and concizumab hold potential as a new generation of haemophilia agents

Novo Nordisk well-positioned within growth disorders with Norditropin[®] and somapacitan

Enhanced search for bolt-on acquisitions and partnerships within adjacent areas ongoing to support Return to Growth strategy



novo nordisk – a focused healthcare company

**Oral semaglutide
and production expansion**

Henrik Wulff
EVP Product Supply

Peter Kristensen
SVP Global Development



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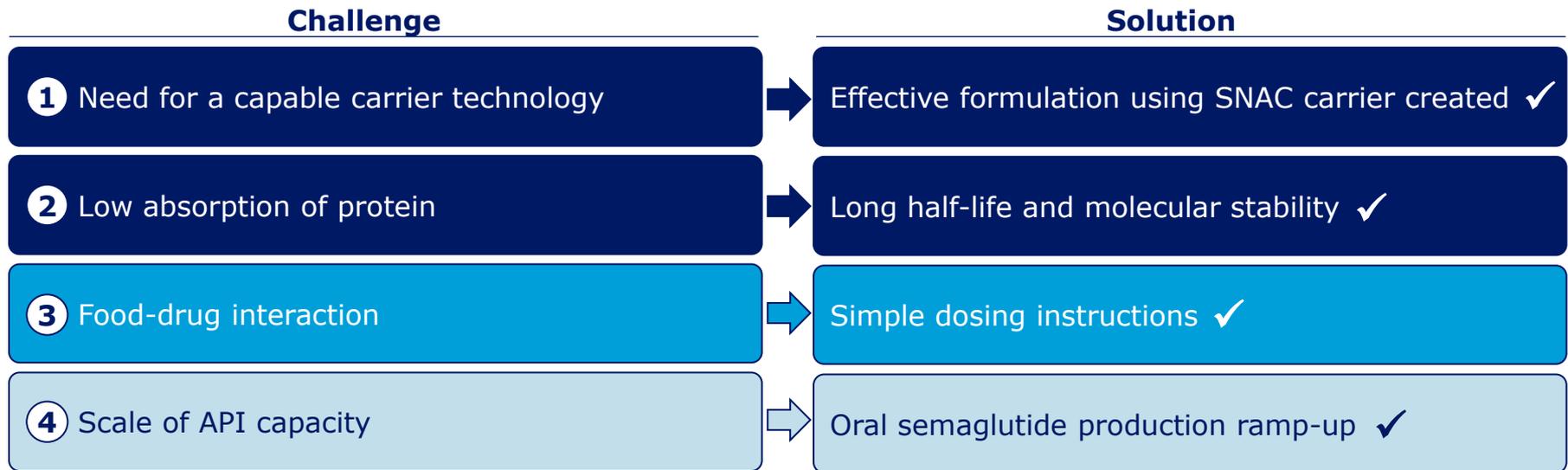
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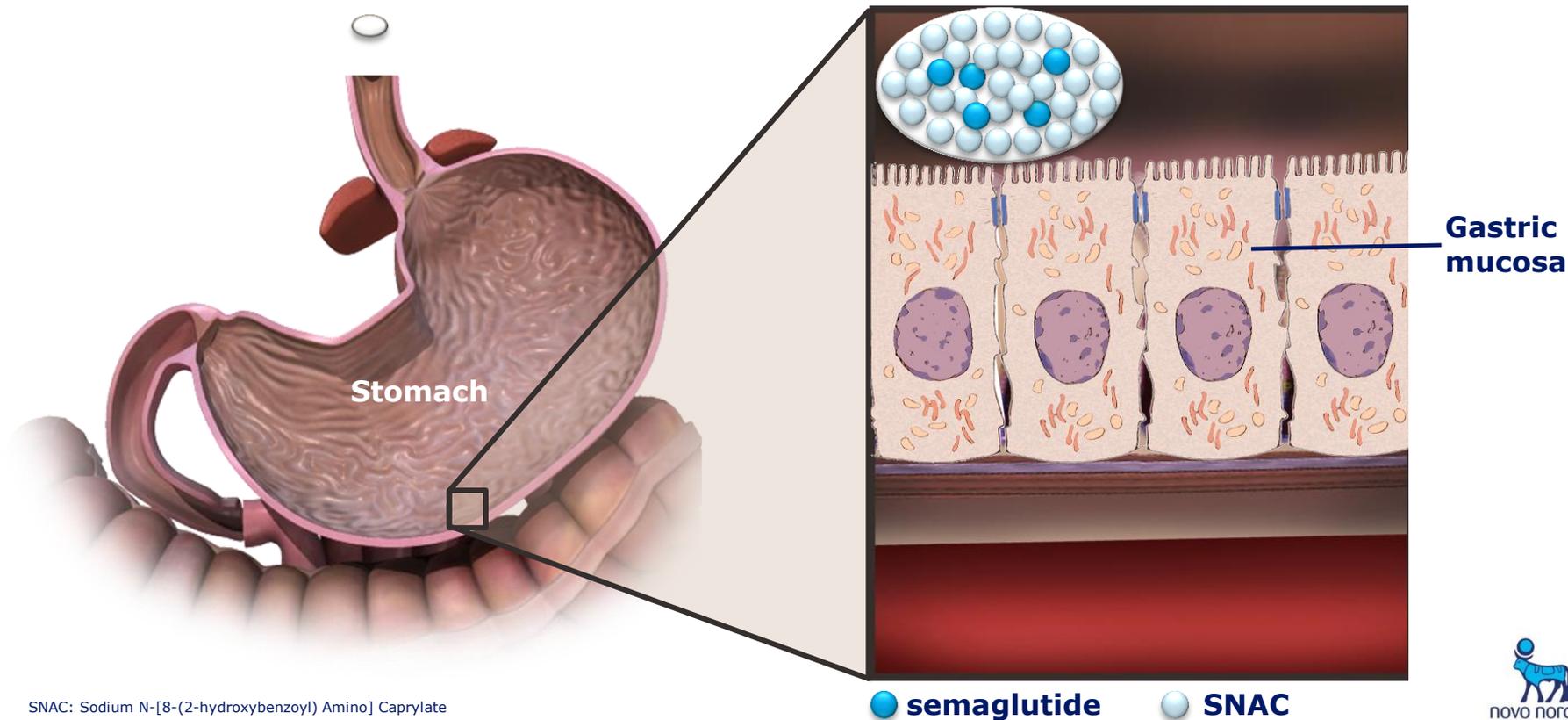
Succeeding with an oral formulation of a protein requires multiple factors to be in place



■ Clinical ■ Compliance ■ Production

API: Active pharmaceutical ingredient; SNAC: Sodium N-[8-(2-hydroxybenzoyl) Amino] Caprylate

1 SNAC carrier facilitates semaglutide absorption



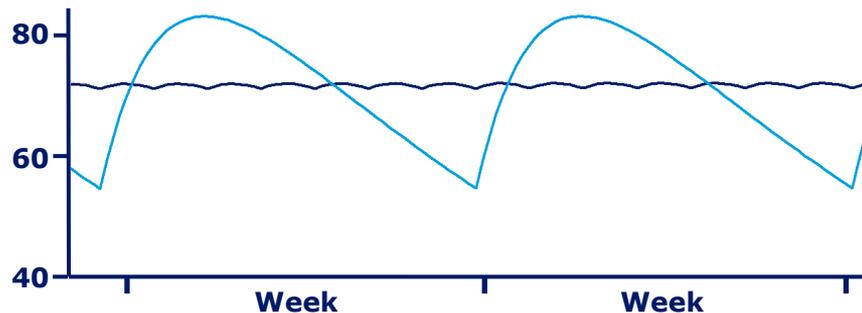
SNAC: Sodium N-[8-(2-hydroxybenzoyl) Amino] Caprylate

2 Long half-life and molecular stability

Lower day-to-day variability at steady state with once-daily semaglutide

Simulated semaglutide concentration (mM)

— Once-daily semaglutide sc
— Once-weekly semaglutide sc



Sc: Subcutaneous; mM: Millimolar

Semaglutide peptide characteristics

Long half life

- The long half-life of semaglutide and daily dosing limits day-to-day variability

Low molecular weight

- Compared to several other GLP-1 analogues, semaglutide has a low molecular weight, enabling absorption

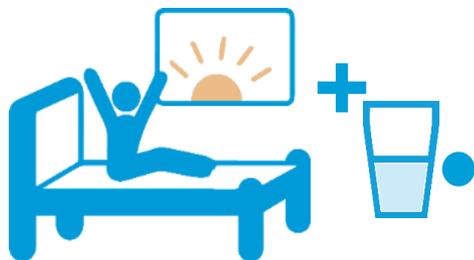
High potency

- Semaglutide proven to be highly potent

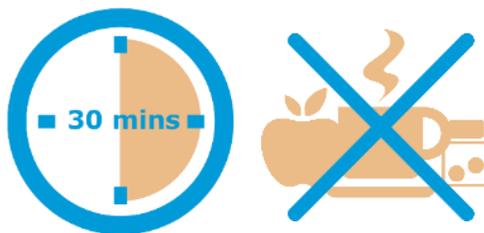
Molecular stability

- Semaglutide is more stable against degradation by gastrointestinal enzymes and stomach acid

3 Simple dosing instructions to avoid food-drug interaction



Wake up and take your tablet
with half a glass of water

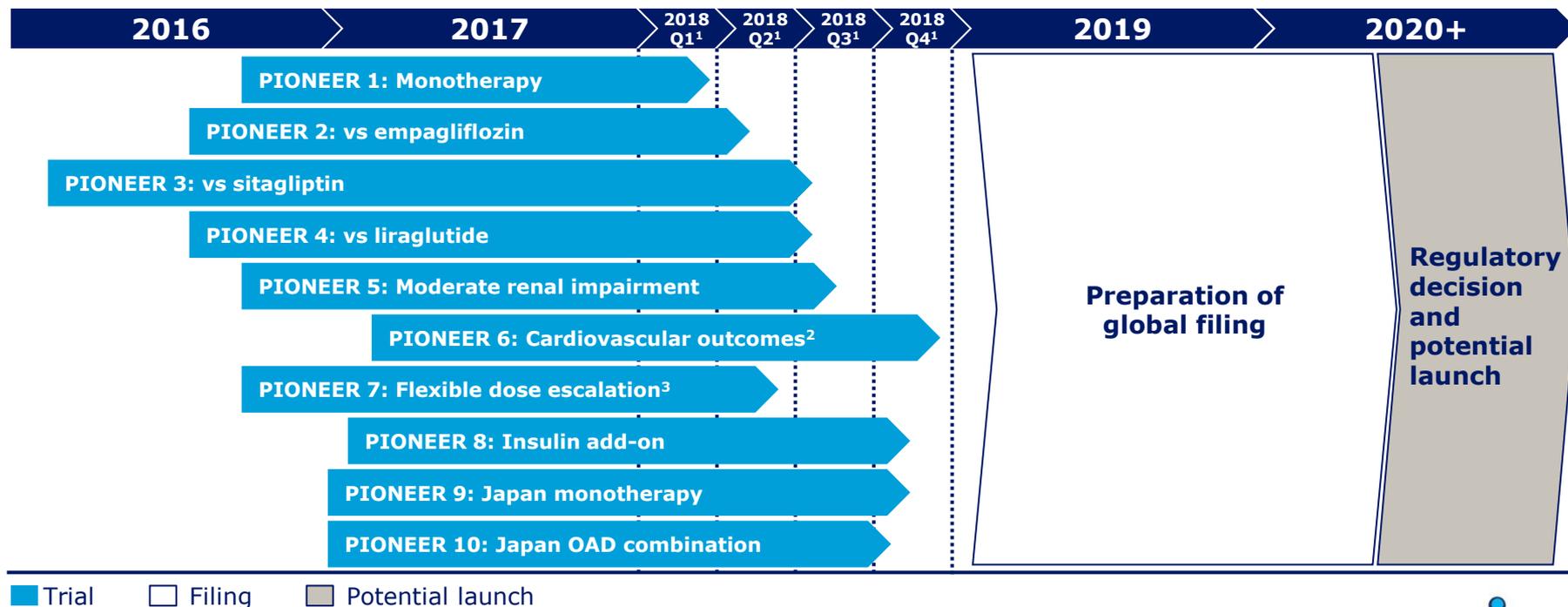


Wait at least 30 minutes
before eating or drinking



Have breakfast

Preparation of global filing of oral semaglutide expected during 2019 pending successful completion of phase 3 trials



¹ Expected to be published in the given quarter or in the subsequent quarterly company announcement; ² Trial to rule out cardiovascular risk; ³ To be followed by 52-week extension trial
 Note: Estimated timing of trials from first patient first visit to last patient last visit and subsequent completion of trial
 OAD: Oral anti-diabetic

4 Two new facilities under construction for production of oral semaglutide

API production in North Carolina and tablet production in Måløv

□ Production sites ■ Process steps



North Carolina, USA

- API production facility
- Expected completion: 2021¹



Måløv, Denmark

- Tablet production facility
- Expected ramp up: 2019

Fermentation

Recovery

Purification

Tableting

Packaging

API: Active pharmaceutical ingredient

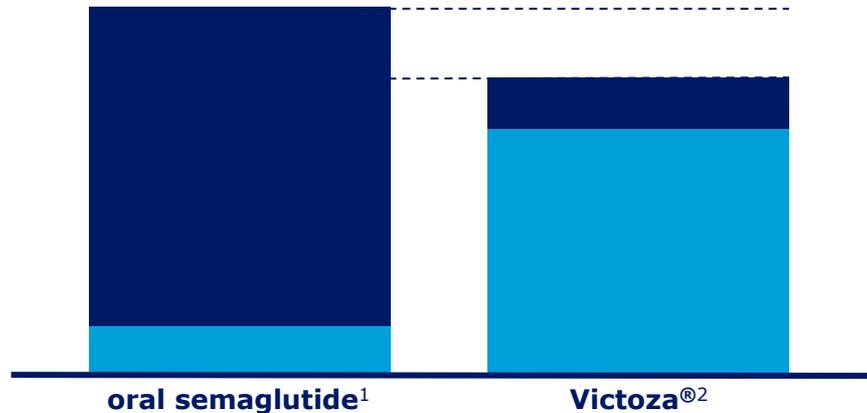
¹ API production for clinical trials and initial launch of oral semaglutide in Kalundborg

API constitute the majority of direct production cost for oral semaglutide

The unit cost composition differs between oral semaglutide and Victoza®

Illustrative

■ API cost ■ Delivery cost



Oral semaglutide gross margin expected to be on par with the current Novo Nordisk level

- Victoza® contributes positively to Novo Nordisk gross margin
- Oral semaglutide gross margin is expected to be on par with the current Novo Nordisk gross margin level following the initial ramp-up, assuming a price point similar to the current level of injectable GLP-1

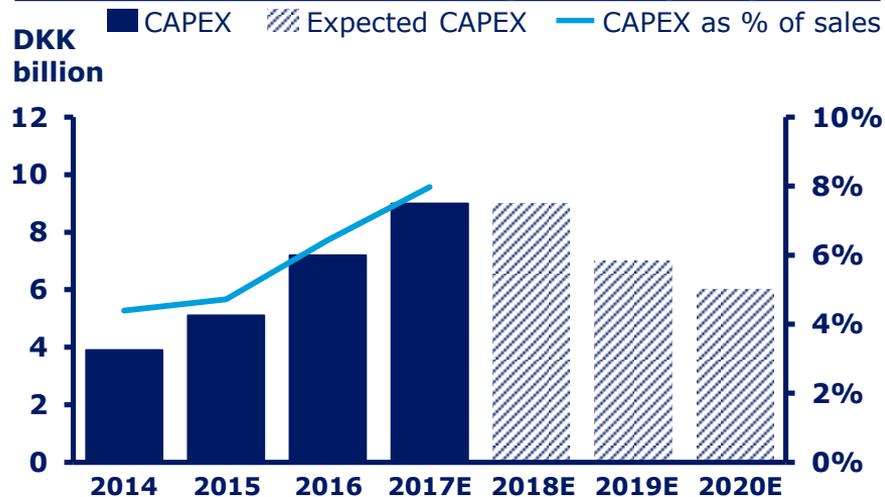
¹ Delivery cost for oral semaglutide: Tableting and packaging

² Delivery cost for Victoza®: Device including formulation, filling, assembly and packaging

API: Active pharmaceutical ingredient

Capital expenditure in 2018 expected to be broadly unchanged compared to 2017 level

Increased CAPEX level in 2017-2018 reflecting investments in oral semaglutide capacity



CAPEX expected to decline after 2018

CAPEX increase driven by USD ~2 billion investment in:

- Diabetes API production in Clayton, USA (USD ~1.8 billion)
- Tableting facility in Måløv, Denmark (USD ~0.2 billion)

2017-2020 CAPEX development:

- 2018 is expected to be similar to 2017
- 2019-2020 CAPEX expected to be around 2016 level as the construction activities for the API production facility in the US will gradually complete

CAPEX: Capital expenditure

API: Active pharmaceutical ingredient

Closing remarks

Effective formulation using SNAC carrier

Long half-life and molecular stability enabling protein absorption

Simple dosing instructions to avoid food-drug interaction

USD 2 billion production ramp-up for oral semaglutide

SNAC: Sodium N-[8-(2-hydroxybenzoyl) Amino] Caprylate

PIHU KUMARI, India
Pihu Kumari has type 1 diabetes

S

novo nordisk – a focused healthcare company

**Region AAMEO
and Region China**

Mike Doustdar
EVP International Operations

Camilla Sylvest
Former SVP Region China

Frederik Kier
SVP Region AAMEO



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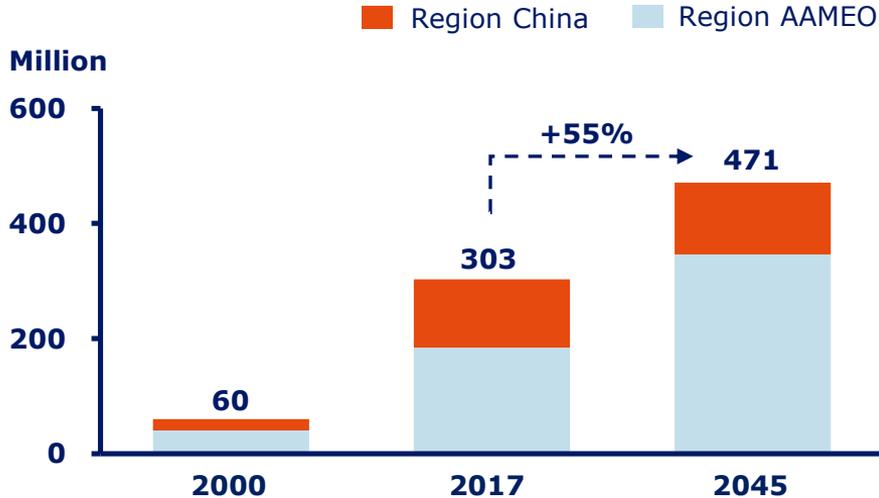
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- Saxenda® (liraglutide 3 mg) is approved in the US and EU for the treatment of obesity only

471 million people with diabetes are expected to live in Region AAMEO or Region China by 2045

Number of people with diabetes in Region China and Region AAMEO



Top 10 countries with most people with diabetes in 2017 and 2045

2017		2045	
Rank	Country (# of diabetics)	Rank	Country (# of diabetics)
1	China (114 million)	1	India (134 million)
2	India (73 million)	2	China (120 million)
3	USA (30 million)	3	USA (36 million)
4	Brazil (13 million)	4	Mexico (22 million)
5	Mexico (12 million)	5	Brazil (20 million)
6	Indonesia (10 million)	6	Egypt (17 million)
7	Russia (9 million)	7	Indonesia (17 million)
8	Egypt (8 million)	8	Pakistan (16 million)
9	Germany (8 million)	9	Bangladesh (14 million)
10	Pakistan (7 million)	10	Turkey (12 million)

AAMEO: Africa, Asia, Middle-East and Oceania

Source: International Diabetes Federation: Diabetes Atlas 1st and 8th Edition, 2000 and 2017



novo nordisk – a focused healthcare company

Region China

Camilla Sylvest
Former SVP Region China

The purpose of the recent Chinese healthcare reform is to increase quality of treatment and reduce cost

Access to innovation



- More frequent updates of national reimbursement list
- Chinese FDA reform to improve new drug approval review process

Cost management



- Provincial biddings
- Second round of price negotiations
- Zero mark-up policy
- Two-invoice policies

Public hospital reform



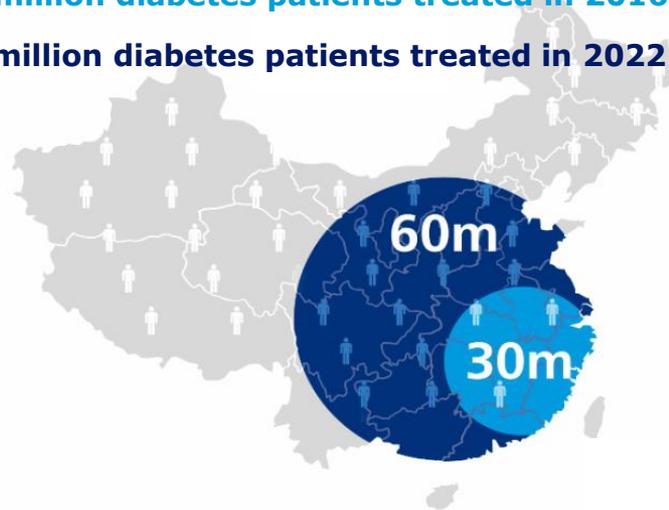
- Implementation of tiered treatment policy
- Focus on improving quality of lower tier hospitals

Novo Nordisk is committed to solve the diabetes challenge in China through better access to care

NN supports the aspiration of doubling the total number of people treated for diabetes in China

30 million diabetes patients treated in 2016¹

60 million diabetes patients treated in 2022



A wide range of initiatives to improve of diabetes care in China have been initiated

- Increase patient diagnosis through screening and diagnosis programs for **150,000+** patients annually
- Drive better patient management and outcomes by establishing digital platform for **100,000+** patients annually
- Improve capabilities of healthcare providers through education of **25,000+** specialists and general practitioners annually
- Establish partnership with **300** county hospitals per year to build dedicated endocrinology departments

¹ Estimated number of diabetes patients treated in China, whereof Novo Nordisk is estimated to treat around 5 million people with diabetes

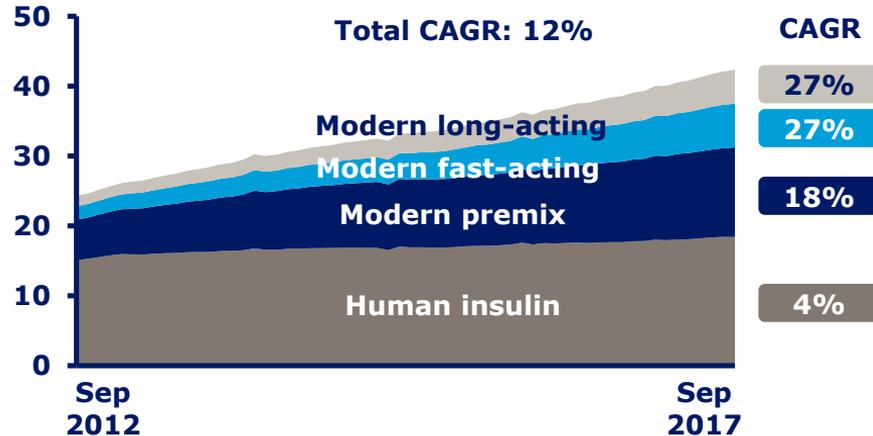
NN: Novo Nordisk

Source: Report on Chronic Disease Risk Factor Surveillance in China 2013 CDC, Sep 2016; Xu Y et al. Prevalence and control of diabetes in Chinese adults, JAMA 2013 948-958; China statistics year book, 2015, National bureau of statistics of China

Novo Nordisk remains the market leader within the growing insulin market in China

The insulin market volume growth in China is driven by modern insulin

Insulin market in volume
(in 1,000 mega units)

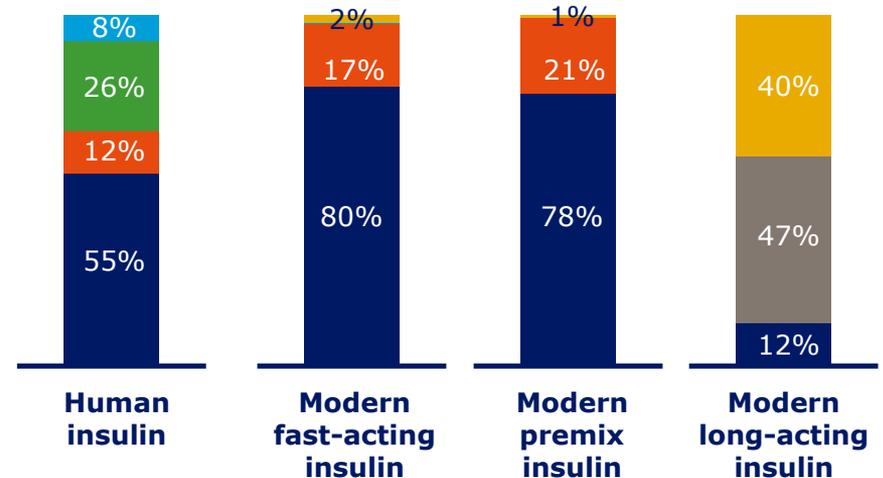


Source: IQVIA (formerly IMS) volume rolling MAT, Sep 2017

Novo Nordisk is the overall leader of the insulin market in China

Insulin MS in
volume (%)

■ Novo Nordisk
 ■ Sanofi
 ■ Eli Lilly
 ■ Tonghua Dongbao
 ■ Gan & Lee
 ■ Other



Note: Numbers do not add up to 100% due to rounding
MS: Market share

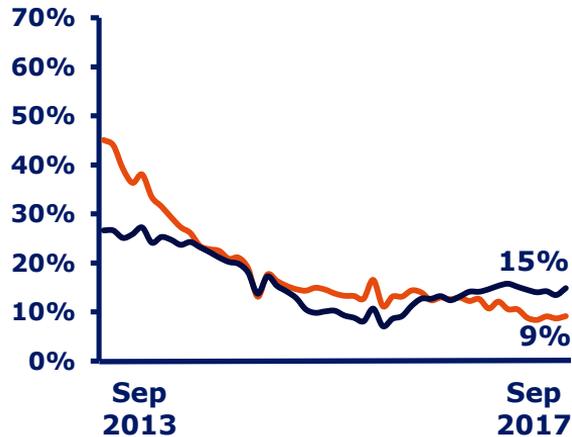
Source: IQVIA (formerly IMS) MS% volume rolling MAT, Sep 2017

Novo Nordisk current growth outperforms competition in all modern insulin segments in China

Modern premix insulin growth

Volume growth

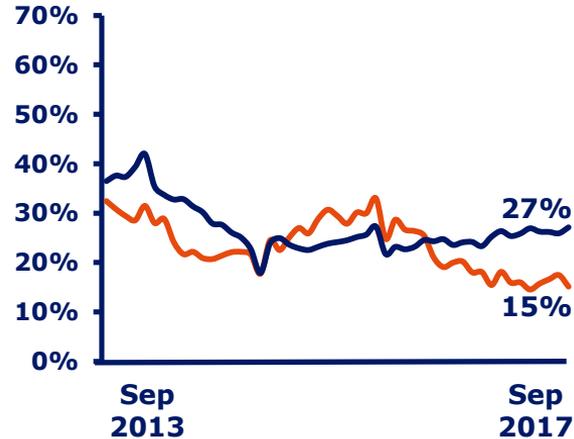
- Novo Nordisk
- Eli Lilly



Modern short-acting insulin growth

Volume growth

- Novo Nordisk
- Eli Lilly



Modern long-acting insulin growth

Volume growth

- Novo Nordisk
- Gan & Lee
- Sanofi



Source: IQVIA (formerly IMS) rolling MAT volume, Sep 2017

The reimbursement of Victoza® in China constitutes a significant growth opportunity

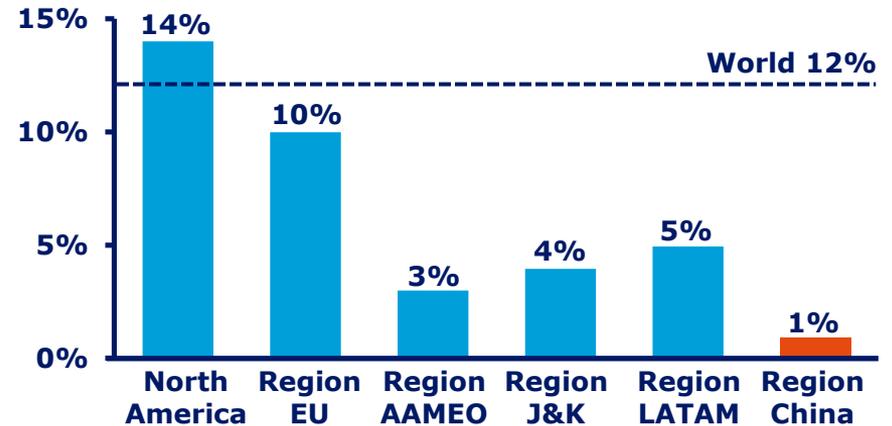
National reimbursement for Victoza® obtained in China in 2017



FDA: Food and Drug Administration

GLP-1 only accounts for 1% of the value in the diabetes care market in China

GLP-1 value share of total diabetes



EU: Europa; AAMEO: Africa, Asia, Middle-East and Oceania; J&K: Japan & Korea;
LATAM: Latin America
Source: Value data; IQVIA (formerly IMS) MAT Sep 2017

Novo Nordisk obtained approval of Tresiba® in China in 2017 and is advancing the pipeline of key products

Regulatory approval of Tresiba® obtained in China in 2017



FDA: Food and Drug Administration

Indicative timelines for key products in China and potential NDRL reviews



NDRL: National Drug Reimbursement List

JANE WANJIRA, Kenya
Jane has type 2 diabetes



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Region AAMEO

Frederik Kier
SVP Region AAMEO

Region AAMEO is the largest and the most diverse region which entails large opportunities and challenges

Region AAMEO covers
+110 countries

■ Region AAMEO



High GDP growth in several
countries in Region AAMEO



Region AAMEO holds
significant challenges



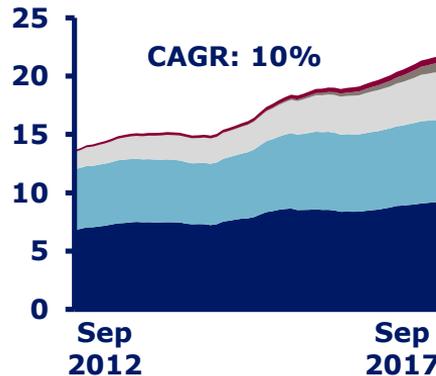
AAMEO: Africa, Asia, Middle-East and Oceania; GDP: Gross Domestic Product

In Region AAMEO the insulin segment accounts for around 40% of the expanding diabetes care market

The diabetes market value has grown 10% on average

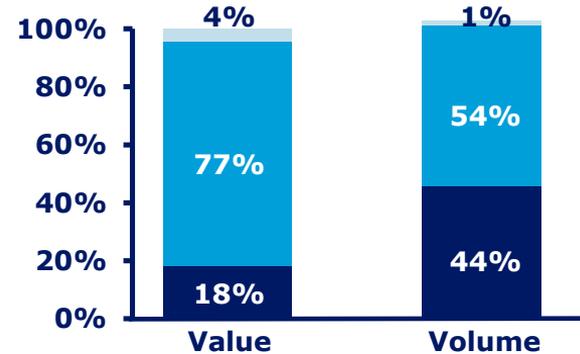
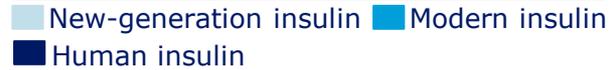


DKK million

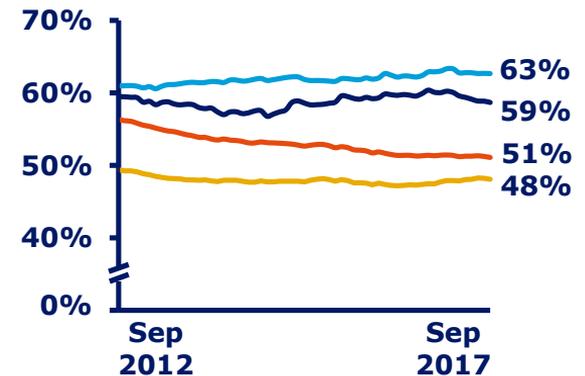
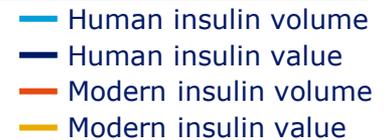


CAGR

Modern insulin accounts for the majority of the insulin segment



Novo Nordisk insulin market share in volume and value



Note: Market shares do not add up to 100% due to rounding

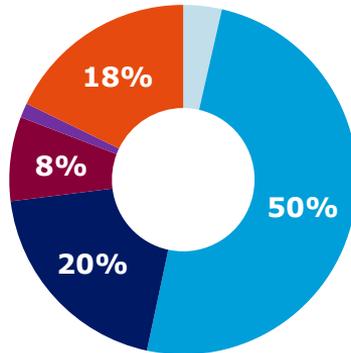
HI: Human insulin; MI: Modern insulin; NGI: New-generation insulin; AAMEO: Africa, Asia, Middle-East and Oceania; OAD: Oral anti-diabetic; MS: Market share

Source: IQVIA (formerly IMS) volume rolling MAT, monthly Sep 2017; MS% volume rolling MAT, Sep 2017; MS% value rolling MAT, Sep 2017; (data only covers the following countries in Region AAMEO: Turkey, Russia, Kazakhstan, Australia, New Zealand, Algeria, India, Saudi Arabia, South Africa, United Arab Emirates)

Sales growth in 2017 is driven by modern insulin, new-generation insulin and GLP-1 in Region AAMEO

Insulin accounts for 73% of sales in 2017¹

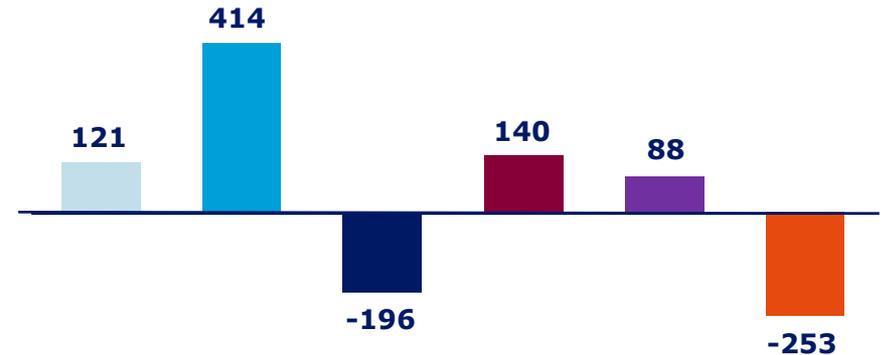
■ New-generation insulin ■ Modern insulin



Sales of DKK 8,950 million²

Sales growth in Danish kroner (million)¹

■ Human insulin ■ Victoza® ■ Saxenda® ■ Biopharm



¹ Reported sales for the first nine months of 2017

² Pie chart excludes Other diabetes care

AAMEO: Africa, Asia, Middle-East and Oceania

Growth in Region AAMEO is driven by footprint expansion and roll-out of new-generation of insulin

Investing ahead of the curve in countries with highest growth potential

- Establish early presence in high potential growth markets
- Build growth markets by investing in infrastructure through local manufacturing, diabetes awareness and access to care

Countries with high growth potential



AAMEO: Africa, Asia, Middle-East and Oceania

62 launches of new-generation insulin planned in Region AAMEO towards 2020

	Countries launched	Planned launches
 insulin degludec [rDNA origin] injection	17	11
 70% insulin degludec and 30% insulin aspart [rDNA origin] injection	9	24
 insulin degludec/liraglutide [rDNA origin] injection	2	11
 fast-acting insulin aspart	0	16

Victoza® and Saxenda® are expected to contribute significantly to future sales growth

Victoza® constitutes a significant growth opportunity in Region AAMEO

Market opportunity

- The GLP-1 market in Region AAMEO only accounts for 3% of the total diabetes value market vs 12% globally¹

Commercial activities

- Drive cardiovascular disease awareness campaigns to leverage LEADER data
- Dedicated Victoza® sales force established
- Obtain market access in countries with high growth potential, eg Algeria, Russia and Turkey



Dedicated Victoza® sales force

¹ IQVIA (formerly IMS) rolling MAT value, Sep 2017
CV: cardiovascular disease; AAMEO: Africa, Asia, Middle-East and Oceania

Focus on establishing the obesity market with Saxenda®

Unmet need

- The obesity prevalence in select countries is similar to the high level in the US:



Saudi Arabia

Men: 24%

Women: 34%



Turkey

Men: 15%

Women: 29%



Iran

Men: 15%

Women: 28%

Commercial activities

- Saxenda® planned to be launched in 12 countries in the next 36 months
- Saxenda® is available in eight markets with recent launches in Saudi Arabia, Bahrain and Qatar

Source: worldobesity.org

Closing remarks

Novo Nordisk growth exceeds competition in all modern insulin segments in China

Reimbursement of Victoza® in China constitutes a significant growth opportunity

Region AAMEO growth is driven by footprint expansion and roll-out of new-generation insulin

Victoza® and Saxenda® are expected to contribute significantly to future sales growth

AAMEO: Africa, Asia, Middle-East and Oceania



RAFAEL DE JESÚS FLORES, Mexico
Rafael has haemophilia A

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**Financial update and
closing remarks**

Jesper Brandgaard
EVP and CFO



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Ambitious plans in place to drive sales growth within diabetes and obesity care

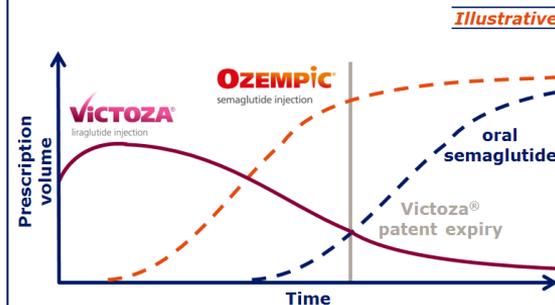
Drive insulin value and volume market share

Commercial focus depends on market maturity and market access situation

	Commercial focus	Volume strategy	Value strategy
New-generation insulins	Differentiation		
Modern insulins	Familiarity		
Human insulins	Affordability		

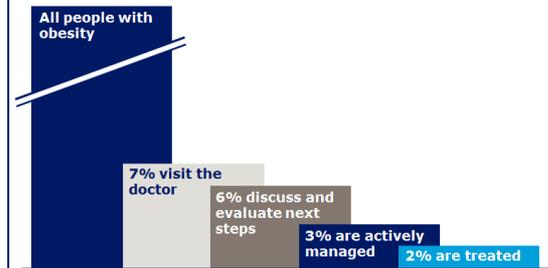
Win with GLP-1

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



Build the global obesity market

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



Operating margin expected to be largely unchanged due to lower gross margin offset by prudent cost management

Gross margin

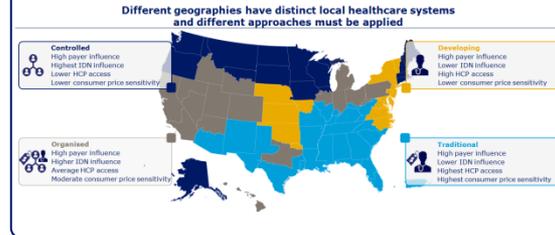
Two new facilities under construction for production of oral semaglutide



- Gross margin expected to decline with approximately 1-3%-points over the next 3-4 years
- Lower realised prices and new product launches expected to negatively impact gross margin partly offset by product mix and manufacturing efficiency

Sales & Distribution costs and administration costs

Succeeding in the US market requires a localised approach to serve the needs of a heterogeneous healthcare system



- Sales and Distribution costs to be streamlined leading to savings of 1-2%-points over the next 3-4 years
- Continued focus on administration costs leading to savings and an administration cost to sales ratio approaching 3%

Research & Development costs

The R&D strategy focuses on innovation and expansion of current patient base

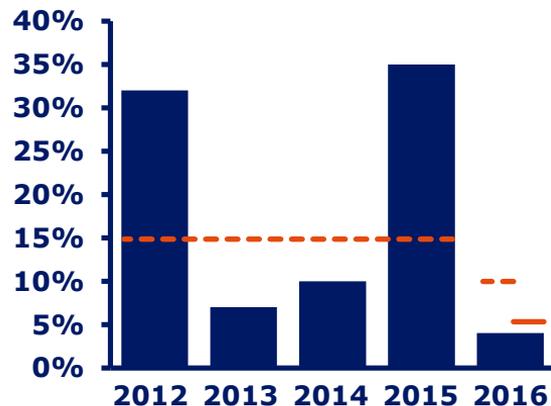


- R&D to sales ratio expected to remain unchanged around 13%, but flexible should external opportunities arise
- Refocused research efforts free up resources for investment in other serious chronic disease areas

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

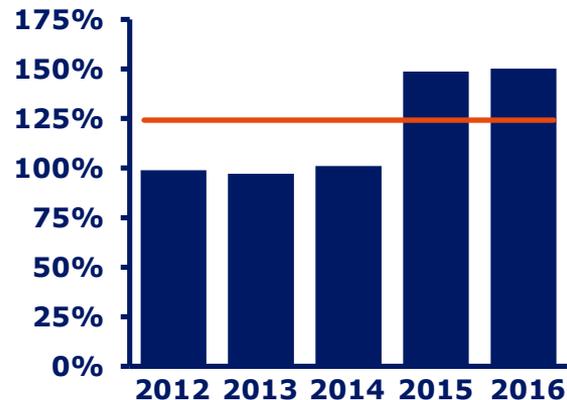
Operating profit growth

- Current long term financial target¹
- - - Previous long term financial targets



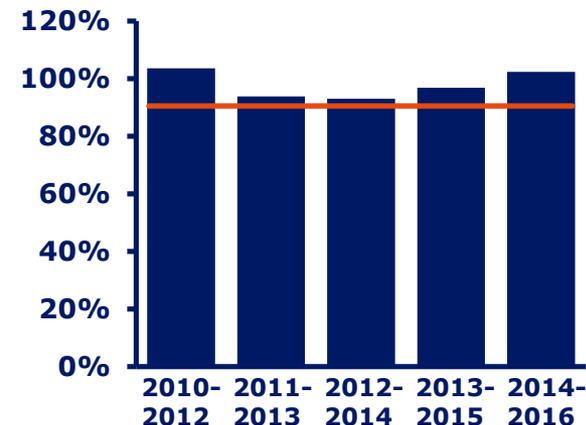
Operating profit after tax to net operating assets

- Current long term financial target¹



Cash to earnings (three-year average)

- Current long term financial target¹

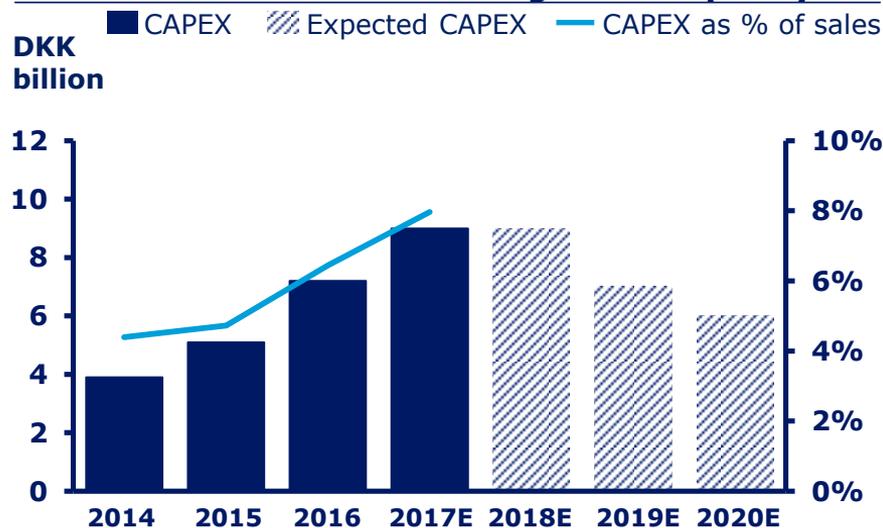


¹ Long-term target established in connection with the Q3 2016 report. The target of an average operating profit growth of 5% is an average for the period of 4-5 years, with 2015 as the base year. Operating profit after tax to net operating assets target unchanged at 125% and Cash to earnings (three year average) target unchanged at 90%

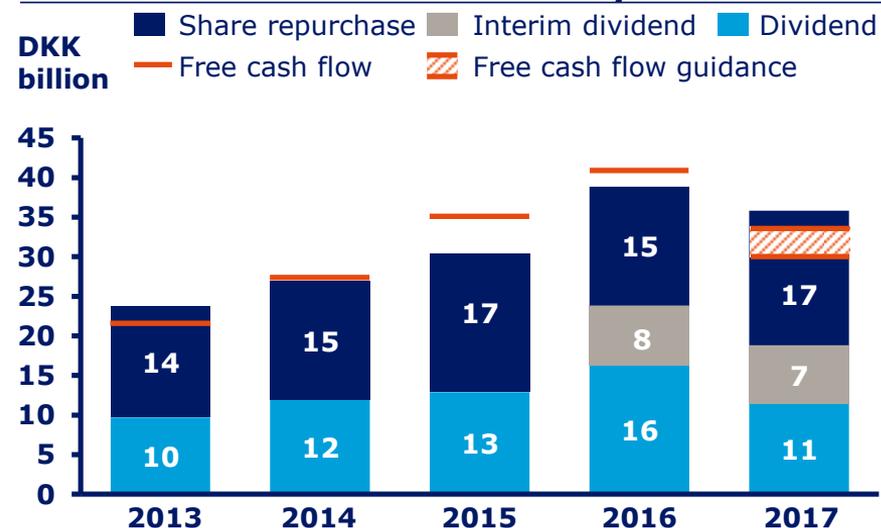
Note: The long-term financial targets are based on an assumption of a continuation of the current business environment; 2015 and 2016 figures are adjusted for the partial divestment of NNIT A/S and inflammatory out-licensing in 2015

Continued return of free cash flow through twice yearly dividends and share repurchase programmes

Increased CAPEX level in 2017-2018 reflecting investments in oral semaglutide capacity



Organic growth enables steady cash return via dividends and share buybacks



CAPEX: Capital expenditure

Note: Interim dividend for 2017 of DKK 3.00 per share of DKK 0.20 was paid in August 2017. For 2017 expected free cash flow is DKK 30-34 billion. Share repurchase programmes run for 12 months starting February until end January of the following year.

We have high ambitions for the coming years

Strategic priorities	R&D ambitions	Commercial ambitions
Expand leadership in DIABETES	Obtain approval of semaglutide Obtain approval of SWITCH/DEVOTE in the US Complete oral semaglutide phase 3 trials Advance early-stage insulin pipeline	World class launch of Ozempic® Continue global roll-out of Tresiba® , Xultophy® , Ryzodeg® and Fiasp® Expand leadership within both insulin and GLP-1
Strengthen leadership in OBESITY CARE	Initiate phase 3a programme with semaglutide Progress early-stage pipeline	Continue global roll-out of Saxenda® Expand the global obesity market
Return to growth in BIOPHARM	Filing of N8-GP and somapacitan in AGHD Advance somapacitan in GHD Advance concizumab and subcutaneous N8-GP	Maximise existing Biopharm portfolio Successful launch of Refixia®/Rebinyn®
Expand into other SERIOUS CHRONIC DISEASES	Advance semaglutide in NASH Pursue semaglutide into other chronic diseases	Establish relationship with cardiologists Build in-house commercial capabilities

AGHD: Adult growth hormone deficiency; GHD: Growth hormone deficiency; NASH: Non-alcoholic steatohepatitis

Closing remarks

Maintain global leadership within insulin and expand leadership within GLP-1

Expand leadership within obesity and return to growth in Biopharm

Solid platform for growth to deliver on long-term financial targets and continued disciplined return of cash flow to shareholders