Health Technology Briefing
October 2025

Semaglutide for weight management

Company/Developer	Novo Nordisk Ltd

☐ New Active Substance ☒ Significant Licence Extension (SLE)

NIHRIO ID: 40713	NICE ID: Not available	UKPS ID: 675218

Licensing and Market Availability Plans

Currently in phase III clinical development.

Summary

Semaglutide is in clinical development for weight management in adults. Overweight and obesity are typically defined by a body mass index (BMI) over 25 and 30, respectively. While this is commonly caused by excessive calorie intake, overweight and obesity are complex conditions with many other potential multifactorial causes. Obesity increases the risk of developing a range of serious health conditions such as stroke, hypertension and type 2 diabetes. Additionally, quality of life can be affected and lead to psychological problems, such as depression and low self-esteem. Recommendations for treatment include lifestyle changes such as increased exercise, healthy diet and a net calorie deficit, along with help through counselling and medication. There is a need for treatment options that will allow obese or overweight patients to reach their individual treatment goals to improve their health.

Semaglutide is a medicinal product that mimics the natural hormone glucagon-like peptide-1 which is released after eating causing reduced appetite and the release of insulin. Semaglutide regulates appetite by increasing a person's feelings of fullness, while reducing their food intake, hunger and cravings. If licensed, semaglutide will offer an additional treatment option for adults with obesity or overweight in the presence of at least one weight-related comorbidity.

This briefing reflects the evidence available at the time of writing and a limited literature search. It is not intended to be a definitive statement on the safety, efficacy or effectiveness of the health technology covered and should not be used for commercial purposes or commissioning without additional information. A version of the briefing was sent to the company for a factual accuracy check. The company was available to comment.

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Proposed Indication

Treatment of obesity in adults.[1]

Technology

Description

Semaglutide (wegovy) is a glucagon-like peptide-1 (GLP-1) analogue with 94% sequence homology to human GLP-1. Semaglutide acts as a GLP-1 receptor agonist that selectively binds to and activates the GLP-1 receptor, the target for native GLP-1. GLP-1 is a regulator of appetite and calorie intake, which is present in several areas of the brain involved in appetite regulation. Semaglutide directly effects areas of the brain involved in homeostatic regulation of food intake in the hypothalamus and brainstem. Additionally, it directly and indirectly effects areas involved in hedonic regulation of food intake, including the septum, thalamus and amygdala. In addition, semaglutide can reduce blood glucose in a glucose-dependent manner by stimulating insulin secretion and lowering glucagon secretion when blood glucose is high. The mechanism of blood glucose lowering also involves a minor delay in gastric emptying in the early postprandial phase. During hypoglycaemia, semaglutide diminishes insulin secretion and does not impair glucagon secretion.[2]

In the phase III trial (STEP UP, NCT05646706), participants received once-weekly subcutaneous semaglutide 7.2mg, 2.4 mg, or placebo for 72 weeks.

Key Innovation

Obesity is widely acknowledged as a major public health issue, not just in the UK but globally.[3] Once-weekly subcutaneous semaglutide 2.4 mg is approved for weight management in people with obesity and related complications; however, some individuals do not reach their therapeutic goals with this dose. There is a need for treatment options that will allow people with obesity to reach their individual treatment goals to improve their health. A higher dose of semaglutide up to 7.2 mg per week could be used to achieve greater clinical benefits in people not reaching therapeutic goals with once-weekly semaglutide 2.4 mg.[4]

If licensed, semaglutide will offer an additional treatment option for adults with obesity or overweight in the presence of at least one weight-related comorbidity.

Regulatory & Development Status

Semaglutide has Marketing Authorisation in the EU/UK for the following indications:[2]

- as an adjunct to a reduced-calorie diet and increased physical activity for weight management, including weight loss and weight maintenance, in adults with an initial BMI of ≥30 kg/m2 (obesity), or ≥27 kg/m2 to <30 kg/m2 (overweight) in the presence of at least one weight-related comorbidity.
- as an adjunct to a reduced-calorie diet and increased physical activity for weight management in adolescents ages 12 years and above with obesity (BMI ≥95th percentile) and body weight above 60 kg.
- as an adjunct to a reduced-calorie diet and increased physical activity to reduce the risk of major adverse cardiovascular events (cardiovascular death, non-fatal myocardial infarction, or non-fatal stroke) in adults with established cardiovascular disease and either obesity or overweight (BMI ≥27 kg/m2).

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Please note that for type 2 diabetes semaglutide is branded as Ozempic® and has a different dose escalation schedule and maintenance dose.[a]

Semaglutide is in phase III/II clinical development for several indications, some of which include:[5]

- Alzheimer's disease
- Heart failure
- Chronic kidney disease
- Metabolic Dysfunction-Associated Steatohepatitis (MASH)

Patient Group

Disease Area and Clinical Need

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health.[6] A BMI of 30 and above indicates obesity, while a BMI of 25-29.9 indicates overweight.[7] Obesity is a serious health concern that increases the risk of many other health conditions like type 2 diabetes, coronary heart disease and some types of cancer. It is a complex issue with many causes, including genetics. There are also a number of underlying health conditions that can occasionally contribute to weight gain, such as an underactive thyroid gland (hypothyroidism). Additionally, some medicines can also make people more likely to put on weight, including steroids and some medicines for high blood pressure. Living with overweight and obesity can also affect quality of life and contribute to mental health problems, such as depression, and can also affect self-esteem.[8]

Obesity is a common problem in the UK that is estimated to affect around one in every four adults.[7] In the 2022 Health Survey for England, 28% of adults in England were obese and a further 36% were overweight, making a total of 64% who were either overweight or obese. Men were more likely than women to be overweight or obese (67% of men compared with 61% of women).[9] In England 2023-24, there were 11,221 finished consultant episodes (FCE) and 9,763 admissions for obesity (ICD-10 code E66) which resulted in 25,123 FCE bed days and 2,457 day cases.[10]

Recommended Treatment Options

National Institute for Health and Care Excellence (NICE) recommends prevention and lifestyle weight management services for adults who are becoming overweight or obese.[11] Drug treatment should only be considered once dietary and physical activity interventions have been started and evaluated, or as part of an integrated approach to weight management.[12]

NICE recommends the following treatment options for managing adults living with overweight or obesity alongside a reduced-calorie diet and increased physical activity:[12]

- Liraglutide
- Semaglutide
- Tirzepatide
- Orlistat

Clinical Trial Information

[a] Information provided by Novo Nordisk Ltd

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Trial	**STEP UP**, NCT05646706, EudraCT 2022-000790-94: Effect and safety of semaglutide 7.2 mg once-weekly in participants with obesity **Phase III** – Completed **Locations:** Nine EU countries, USA, Canada and South Africa **Study completion date:** November 2024
Trial Design	Randomised, parallel assignment, quadruple masking
Population	N (actual) = 1,407; subjects with obesity; aged 18 years and older
Intervention(s)	• Semaglutide 7.2mg (SC); increased dose every fourth week from 0.25mg to 7.2mg once per week • Semaglutide 2.4mg (SC); increased dose every fourth week from 0.25mg to 2.4mg once per week
Comparator(s)	Placebo (matched)
Outcome(s)	Primary outcomes: • Semaglutide 7.2 mg versus Placebo: Relative change in body weight [Time frame: from baseline (week 0) to end of treatment (week 72)] • Semaglutide 7.2 mg versus Placebo: Number of participants who achieve body weight reduction greater than or equal to (>=) 5% (yes/no) [Time frame: from baseline (week 0) to end of treatment (week 72)] See trial record for full list of other outcomes
Results (efficacy)	Semaglutide 7.2 mg, n = 1005; semaglutide 2.4 mg, n = 201; placebo, n = 201. 74% were female, mean age was 47 yrs, weight 113 kg, BMI 39.9 kg/m2 and waist circumference (WC) 119 cm. Most treatment completers reached the max dose (semaglutide 7.2 mg, 75.4%; semaglutide 2.4 mg, 89.3%; placebo, 96.5%). Mean percentage weight loss (%WL) was greater with semaglutide 7.2 mg (18.7%) vs semaglutide 2.4 mg (15.6%) or placebo (3.9%; p<0.001), with significant differences in attainment of %WL thresholds. WC was reduced with semaglutide 7.2 mg vs placebo (p<0.001).[13]
Results (safety)	Gastrointestinal adverse events (AEs) reported by 70.8%, 61.2% and 42.8% of participants with semaglutide 7.2 mg, 2.4 mg and placebo, respectively. Discontinuations occurred in 3.3%, 2.0% and 0% due to these AEs. Serious AEs were reported by 6.8%, 10.9% and 5.5% of participants, respectively.[13]

Estimated Cost

Cost of semaglutide was confidential at the time of producing this briefing.

Relevant Guidance

NICE Guidance

- NICE technology appraisal. Tirzepatide for managing overweight and obesity. (TA1026). December 2024.
- NICE technology appraisal. Semaglutide for managing overweight and obesity (TA875). September 2023.

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- NICE technology appraisal. Liraglutide for managing overweight and obesity (TA664). December 2020.
- NICE technology appraisal. Naltrexone–bupropion for managing overweight and obesity (TA494). December 2017.
- NICE guideline. Overweight and obesity management (NG246). January 2025.
- NICE quality standard. Overweight and obesity management (QS212). August 2025.
- NICE interventional procedure. Endoscopic sleeve gastroplasty for obesity (IPG783). February 2024.

NHS England (Policy/Commissioning) Guidance

- NHS England. NHS Standard Contract for Severe and Complex Obesity – All Ages (A05/S/a). October 2013.
- NHS England. Clinical Commissioning Policy: Complex and Specialised Obesity Surgery. NHSCB/A05/P/a. April 2013.

Other Guidance

- Apovian C, Aronne L, Bessesen D, McDonnell M, Murad M, et al. Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline. February 2015.[14]
- Yumuk V, Tsigos C, Fried M, Schindler K, Busetto L, Micic D, et al. European Guidelines for Obesity Management in Adults. December 2015.[15]

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5 ClinicalTrials.gov. *Search results: Semaglutide | Phase: 2, 3 | Sponsor - Lead: Novo Nordisk A/S*. 2025. Available from: https://clinicaltrials.gov/search?intr=Semaglutide&lead=Novo%20Nordisk%20A%2FS&aggFilters=phase:2%203&page=5 [Accessed 22 August 2025].

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12 National Institute for Health and Care Excellence (NICE). *Obesity: Scenario: Management*. 2025. Available from: https://cks.nice.org.uk/topics/obesity/management/management/#drug-treatment [Accessed 22 August 2025].

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