

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Semaglutide for managing overweight and obesity in young people
aged 12 to 17

Final scope

Remit/evaluation objective

To appraise the clinical and cost effectiveness of semaglutide within its marketing authorisation, in addition to healthy nutrition and increased physical activity, for managing overweight and obesity in young people aged 12 to 17.

Background

Overweight and obesity is a chronic condition characterised by increased body fat. Young people living with overweight or obesity are at an increased risk of developing weight-related comorbidities, including but not limited to asthma, cardiovascular disease, type 2 diabetes, cancer, osteoarthritis and chronic kidney disease. Overweight and obesity in childhood is also associated with psychological problems such as low self-esteem and depression and is also a predictor of overweight and obesity in adulthood¹.

For children and young people, instead of using fixed body mass index (BMI) thresholds to indicate having overweight or obesity, variable thresholds are used. The thresholds are derived from a reference population known as a child growth reference which provides an average BMI for children and young people according to age and sex. This allows a measure of an individual's BMI according to the expected value based on their age and sex, including the centile of the population they are within². [NICE clinical guideline 189 \(CG189\) 'Obesity: identification, assessment and management'](#) recommends using the [Royal College of Paediatrics and Child Health UK-World Health Organization \(RCPCH UK-WHO\)](#) growth chart to classify BMI centile. In line with NICE CG189, for children and young people, a BMI that is in the 91st centile of the RCPCH UK-WHO child growth reference is classified as overweight, and BMI that is in the 98th centile is classified as obese.

A 2017 UK study of 10,825 14-year-olds showed that 15% of participants were overweight (defined as BMI above the 85th centile and below the 95th centile) and 21% had obesity (above the 95th centile). Differences in the rates of overweight and obesity were seen based on ethnicity, with 48% of Black young people compared with 34.5% of White young people having overweight or obesity. Differences were also seen according to maternal education, as around 38% of participants whose mothers were educated to GCSE level or lower had overweight or obesity compared with 26% of people whose mothers had a degree level education or higher¹.

NICE CG189 'Obesity: identification, assessment and management' states that tailored interventions should be considered for treatment of overweight or obesity in young people. Multicomponent interventions are the treatment of choice and should include behaviour change strategies to increase people's physical activity levels or decrease inactivity, improve eating behaviour and the quality of the person's diet, and reduce energy intake. In young people, pharmacological treatment with orlistat is recommended only if physical comorbidities or severe psychological comorbidities

Final scope for the evaluation of semaglutide for managing overweight and obesity in young people aged 12 to 17

Issue Date: March 2023

Page 1 of 4

© National Institute for Health and Care Excellence 2023. All rights reserved.

are present. Orlistat should be started in a specialist paediatric setting by multidisciplinary teams with experience of prescribing in this age group. Treatment should continue only when prescribed by a multidisciplinary team with expertise in drug monitoring, psychological support, behavioural interventions, interventions to increase physical activity and interventions to improve diet.

The technology

Semaglutide (Wegovy, Novo Nordisk) does not currently have a marketing authorisation in the UK for managing overweight or obesity in young people. It has been studied in a clinical trial in young people aged 12 to 17 years with a BMI in the 95th centile or higher (defined as obese), and above the 85th centile and below the 95th centile (defined as overweight) plus 1 or more weight-related comorbidities including hypertension, dyslipidaemia, obstructive sleep apnoea or type-2 diabetes. All participants also received talks about healthy food choices, how to be more physically active and what they can do to help lose weight.

Semaglutide does have marketing authorisations in the UK as an adjunct to diet and exercise for managing overweight and obesity in adults. It also has a marketing authorisation in the UK for managing insufficiently controlled type 2 diabetes mellitus in adults, either as monotherapy when metformin is considered inappropriate due to intolerance, or in combination with other medicinal products.

Intervention	Semaglutide
Populations	Young people aged 12 to 17 years who on a recognised child growth reference adjusted for age and sex, have a BMI: <ul style="list-style-type: none"> • equal to or above the 95th centile or, • equal to or above the 85th centile plus at least 1 weight-related comorbidity
Subgroups	Young people aged 12 to 17 years who on a recognised child growth reference adjusted for age and sex have overweight or obesity in line with NICE CG189, with BMI: <ul style="list-style-type: none"> • equal to or above the 98th centile or, • equal to or above the 91st centile and less than the 98th centile
Comparators	For young people aged 12 to 17 years who have overweight or obesity: <ul style="list-style-type: none"> • standard management without semaglutide (including a reduced calorie diet and increased physical activity), alone, or with: <ul style="list-style-type: none"> • orlistat (in the presence of physical comorbidities or severe psychological comorbidities only) • liraglutide

<p>Outcomes</p>	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> • BMI • change in BMI centile on gender and age specific growth charts (references and standards) • incidence of type 2 diabetes • glycaemic status • cardiovascular events • mortality (including suicide) • social and emotional functioning • adverse effects of treatment • health-related quality of life.
<p>Economic analysis</p>	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared.</p> <p>Costs will be considered from an NHS and Personal Social Services perspective.</p>
<p>Other considerations</p>	<p>Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.</p>
<p>Related NICE recommendations</p>	<p>Related Technology Appraisals:</p> <p>Liraglutide for managing overweight and obesity (2020). NICE technology appraisal 664.</p> <p>Semaglutide for managing overweight and obesity (2023) NICE technology appraisal 875.</p> <p>Related Guidelines:</p> <p>Obesity: identification, assessment and management (2014, updated 2022). NICE guideline CG189.</p> <p>Related Interventional Procedures:</p> <p>Single-anastomosis duodeno-ileal bypass with sleeve gastrectomy for treating morbid obesity (2016). NICE interventional procedures guidance 569.</p>

	<p>Implantation of a duodenal–jejunal bypass sleeve for managing obesity (2013). NICE interventional procedures guidance 471.</p> <p>Laparoscopic gastric plication for the treatment of severe obesity (2012). NICE interventional procedures guidance 432.</p> <p>Related Public Health Guidance/Guidelines:</p> <p>Weight management: lifestyle services for overweight or obese children and young people (2013). NICE public health guideline 47. Update ongoing; publication due March 2024.</p> <p>Related Quality Standards:</p> <p>Obesity in children and young people: prevention and lifestyle weight management programmes (2015). NICE quality standard 94.</p>
<p>Related National Policy</p>	<p>The NHS Long Term Plan, 2019. NHS Long Term Plan NHS England (2018/2019) NHS manual for prescribed specialist services (2018/2019) Section 139A</p>

References

- 1 Fitzsimmons and Pongiglione; [Prevalence and trends in overweight and obesity in childhood and adolescence - Findings from the Millennium Cohort Study](#), with a focus on age 14; Centre for longitudinal studies; 2017
- 2 National Obesity Observatory, [A guide to classifying body mass index in children](#) (2011)