

Should we look at alternative careers? ——from an endocrinologist's perspective

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Reducing weight by 5-15% is far from meeting the weight loss requirements of patients with obesity

The goal of weight loss

BMI range	Number of patients	Range of weight loss (to ideal BMI ~ 24 kg/m ²)
24-28 kg/m ²	~360 million	5-15%
28-30 kg/m ²	~85 million	15-20%
30-35 kg/m ²	~77 million	20-30%
35-40 kg/m ² ≥40 kg/m ²	~7 million	30-40% Or even more
Based on the data from 2016 to 2018		

The weight loss of 5-15% that can be achieved through non-surgical treatments is far from meeting the weight loss requirements of obese patients.

The current methods still pose difficulties in achieving the 5% weight reduction target.

Given the current situation of obesity treatment, achieving the "weight reduction of at least 5%" is still extremely challenging; and repeated failures in weight loss can lead to a loss of confidence in weight reduction.

- A 9-year follow-up study of the British database shows that the probability of achieving a **5% weight loss** is **1 in 5 to 1 in 12**, and the probability of **achieving a normal weight** is **1 in 124 to 1 in 1290**.

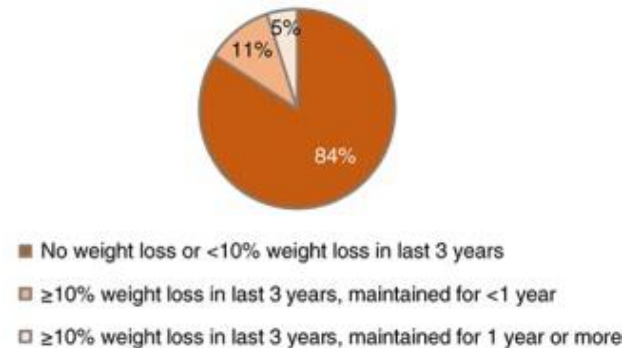
	The probability of achieving a 5% weight loss each year	The probability of achieving normal weight
male , kg/m ²		
30.0–34.9	1 in 12	1 in 210
35.0–39.9	1 in 9	1 in 701
40.0–44.9	1 in 8	1 in 1290
≥ 45.0	1 in 5	1 in 362
female , kg/m ²		
30.0–34.9	1 in 10	1 in 124
35.0–39.9	1 in 9	1 in 430
40.0–44.9	1 in 7	1 in 677
≥ 45.0	1 in 6	1 in 608

By initial BMI category and gender: The proportion of patients who achieved a weight loss of 5% and reached a normal weight each year ¹

This study is based on a 9-year follow-up study (from 2004 to 2014) conducted using the UK clinical practice database, which included data from 278,982 obese patients. The aim was to analyze the possibility of patients regaining normal weight. The study employed various methods such as longitudinal analysis based on BMI and time-event analysis.

- The patient repeatedly attempted to lose weight, but the results were not satisfactory. Only 11% of the people were able to achieve a 5% weight loss and maintain it for more than one year, and **only 5% were able to achieve a 10% weight loss and maintain it for more than one year**.

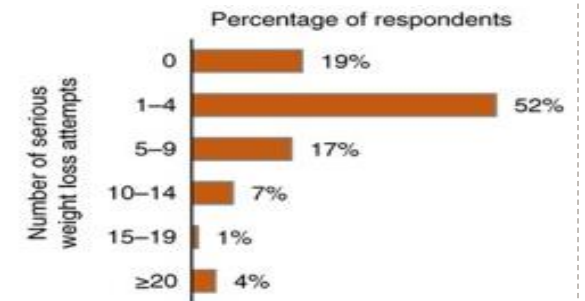
Proportion of patients with obesity who have undergone different degrees of weight loss over the past 3 years



PwO, n = 14 502; data calculated from responses to QS20, QS20B and QS22

The ACTION-IO study is an international multicenter, cross-sectional, non-interventional research. Questionnaires were conducted separately among obese patients (PwO, 14,502 cases) and medical staff (HCPs, 2,785 cases).

The number of previous attempts at weight loss reported by obese patients



PwO, n = 14 502; Q205

1.Fildes, Alison et al. Am J Public Health. 2015 Sep;105(9):e54-9

2.Caterson ID, et al. Diabetes Obes Metab. 2019 Aug;21(8):1914-1924.

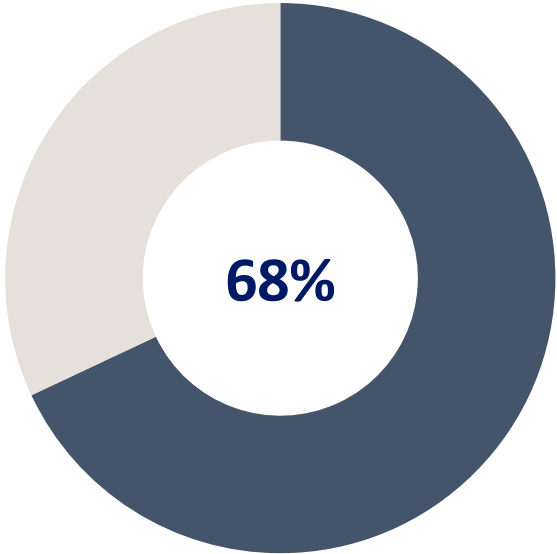
Perception of obesity as a disease

ACTION-IO

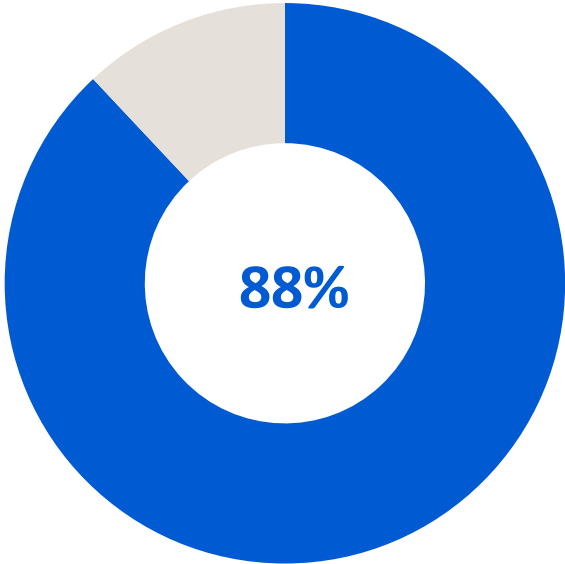
Obesity is a chronic disease



All Global PwO (n=14,480)*



All Global HCP (n=2,785)

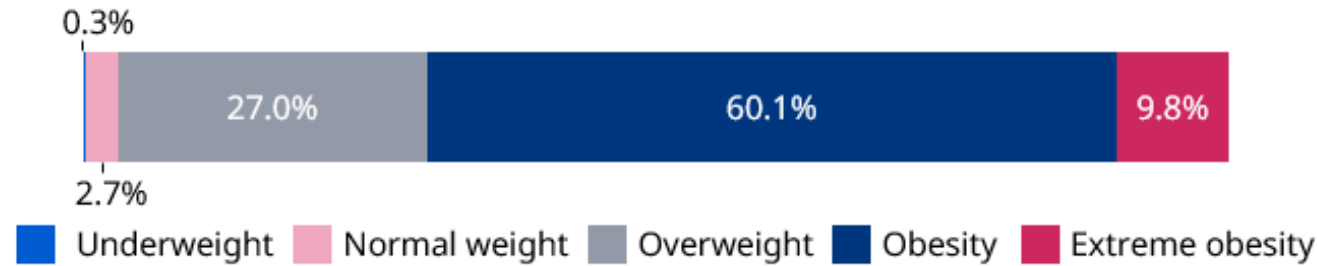


*N-size is less than total due to respondents selecting not sure for attributes
[All PwO] Q640 Please indicate how much you agree with the following statements regarding obesity and weight management;
[All HCP] Q650 Please indicate how much you agree with the following statements regarding obesity and weight management, HCP, healthcare provider; PwO, people with obesity

PLwO's self-assessment of weight/health

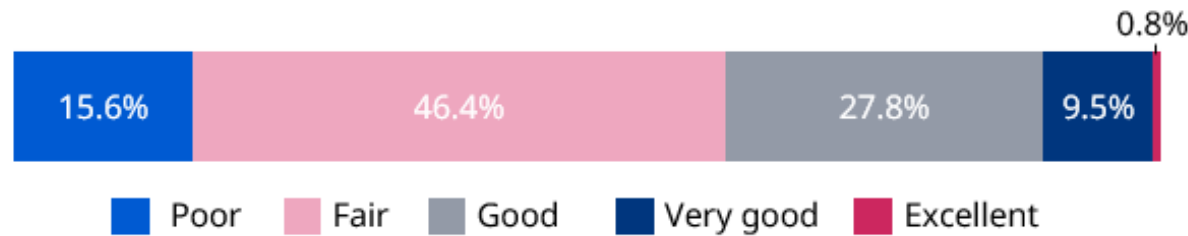
ACTION-China

Self-assessment of current weight



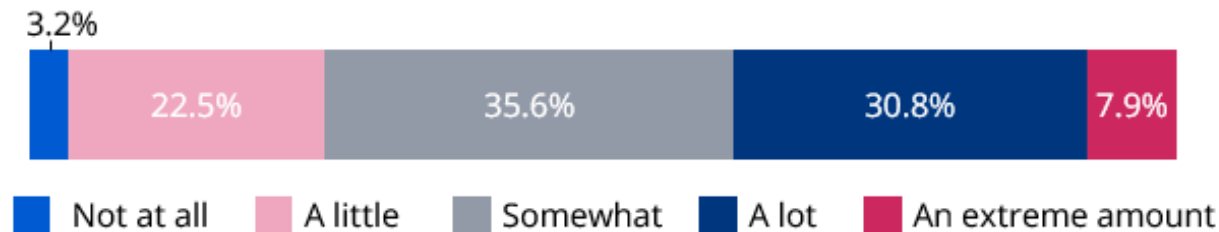
30.0% of PLwO thought that they had underweight/normal weight/overweight instead of obesity

Self-assessment of current health



Only 15.6% of PLwO felt that they had poor health

Level of worry about weight affecting future health



Fewer than half of PLwO worried a lot/an extreme amount about weight affecting future health

Percentages of PLwO (n=7,000) who self-assessed their weight/health/worry about weight affecting future health.

- Although 76.8% of PLwO agree that obesity is a chronic disease, 30% of PLwO do not consider themselves to be obese and there is a lack of awareness of the health influence of obesity

Difference in PLwO and HCP feelings about weight discussions

A) Overall, how helpful do you feel your conversations with your HCP about weight management are?



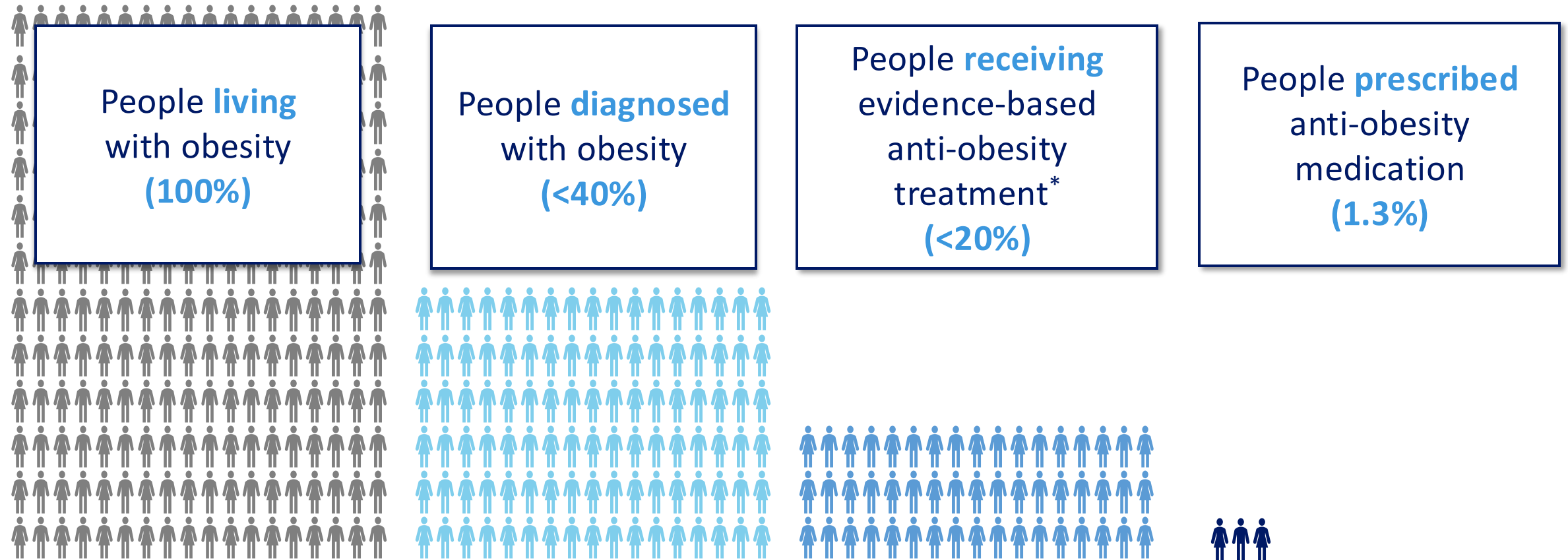
B) Overall, how helpful do you feel your conversations about obesity are for your patients with obesity?



■ Not at all helpful ■ A little helpful ■ Somewhat helpful ■ Very helpful ■ Extremely helpful

Percentages of a participants who selected each response option, among PLwO who had discussed weight with an HCP (Panel A) and all HCPs (Panel B).
HCPs, healthcare professionals; PLwO, people living with obesity.

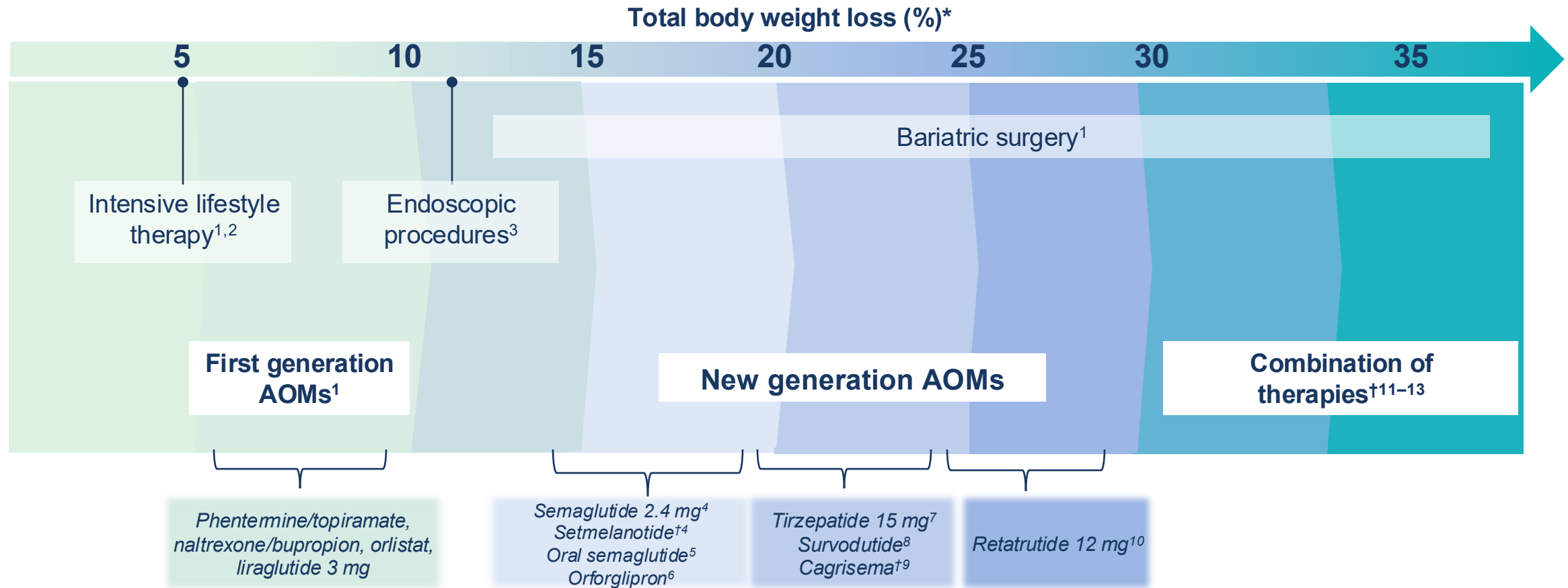
Obesity remains underdiagnosed and undertreated



**Includes lifestyle and behavioural counselling, anti-obesity medications and bariatric surgery.*

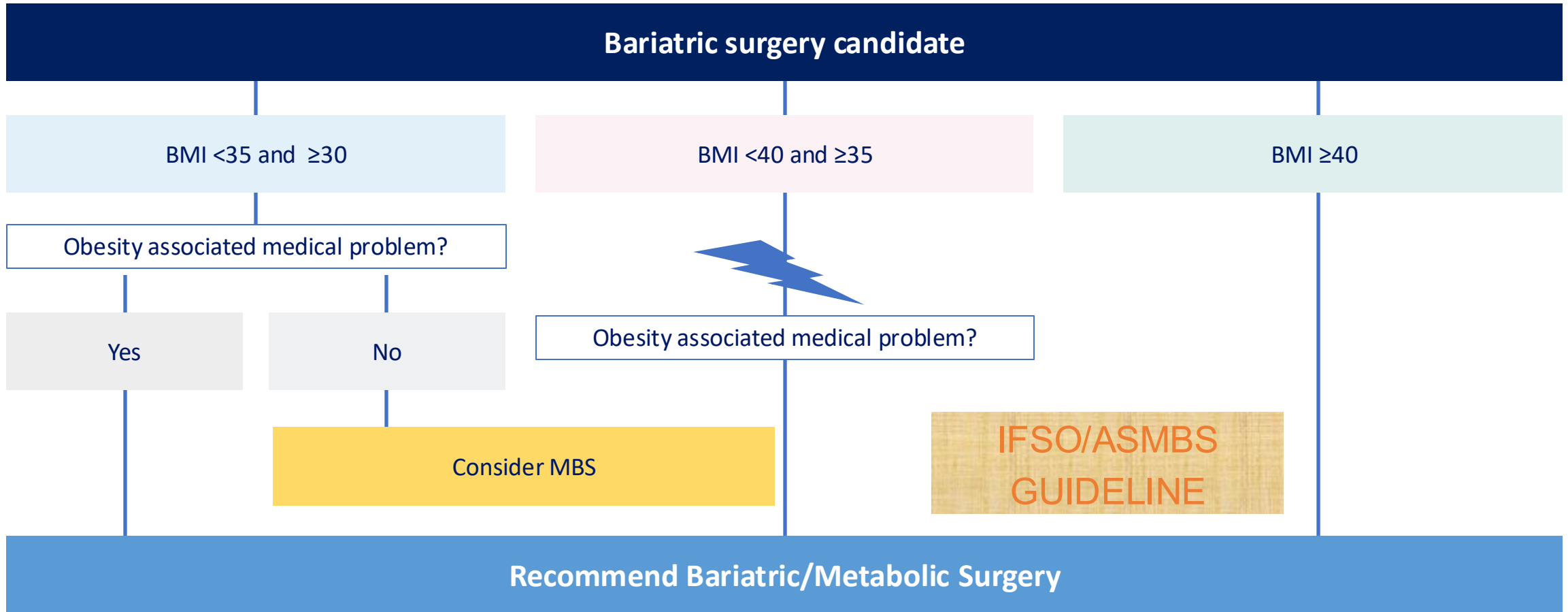
Adapted from: Colby, Ortman. Available from www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf. 2015. Accessed March 2021; Centers for Disease Control and Prevention. Available from www.cdc.gov/nchs/fastats/obesity-overweight.htm. Accessed on Nov 2020; Ma et al. Obesity (Silver Spring) 2009;17:1077-85; IMS Xponent Dec-15; Caterson et al. Diabetes Obes Metab 2019; 21:1914-24; Saxon et al. Obesity (Silver Spring, Md.) vol. 27,12 (2019)

Novel AOMs are filling the treatment gap for people living with overweight/obesity



*The schematic is for illustrative purposes; percentage total body weight loss for the different treatment types may vary slightly; [†]Anticipated weight loss; trials not yet completed. AOM, anti-obesity medication. Adapted from: 1. Kumar et al. Expert Rev Endocrinol Metab 2021;16:321; 2. Look AHEAD Research Group, Gregg. Lancet Diabetes Endocrinol 2016;4:913; 3. Kumar. World J Gastroenterol 2016;22:7069; 4. Garvey. J Clin Endocrinol Metab 2022;107:e1339; 5. . 2023 Aug 26;402(10403):705-719 ; doi:10.1016/S0140-6736(23)01185-6; 6. Wharton et al. NEJM 2023; doi:10.1056/NEJMoa2302392; 7. Jastreboff et al. N Engl J Med. 2022 Jul 21;387(3):205-216.; 8. le Roux et al. ADA 2023; presentation 51-OR; 9. Evaluate, 2023. Novo Nordisk CagriSema targets; available at: <https://www.evaluate.com/vantage/articles/news/trial-results-snippets/novo-nordisk-aims-beat-its-own-blockbuster>; accessed September 2023; 10. Jastreboff et al. NEJM 2023;389:514; 11. Wilding. J Psychopharmacol 2017;31:1503; 12. Gutt et al. Expert Opin Pharmacother 2019;20:939; 13. Patel et al. JCEM Case Reports 2023;1:1.

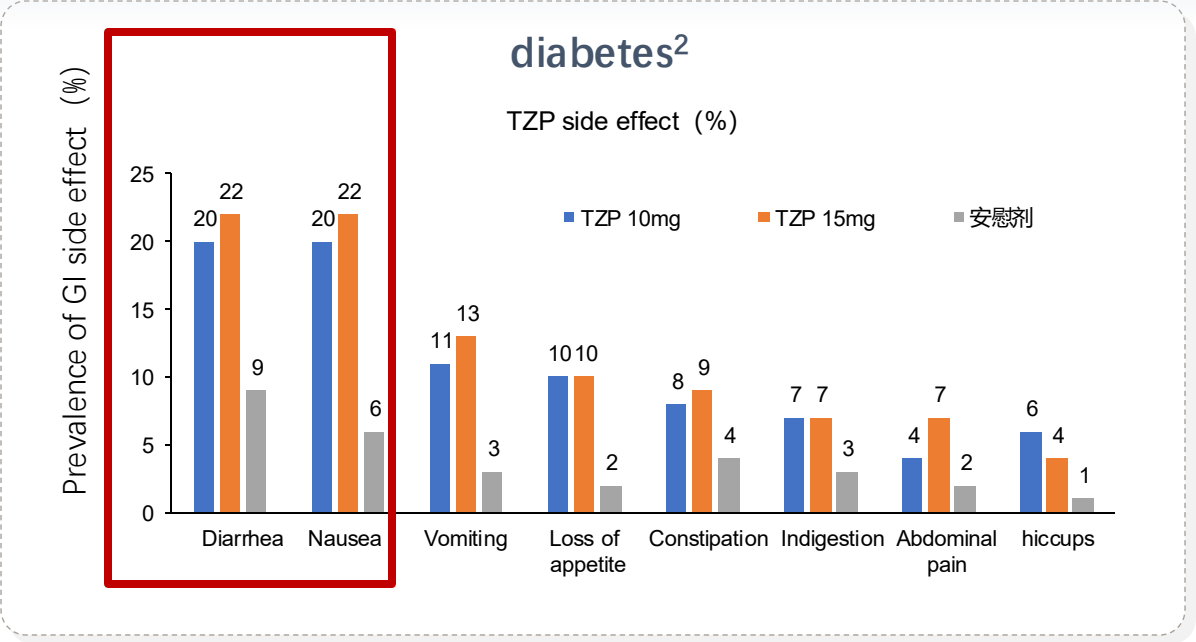
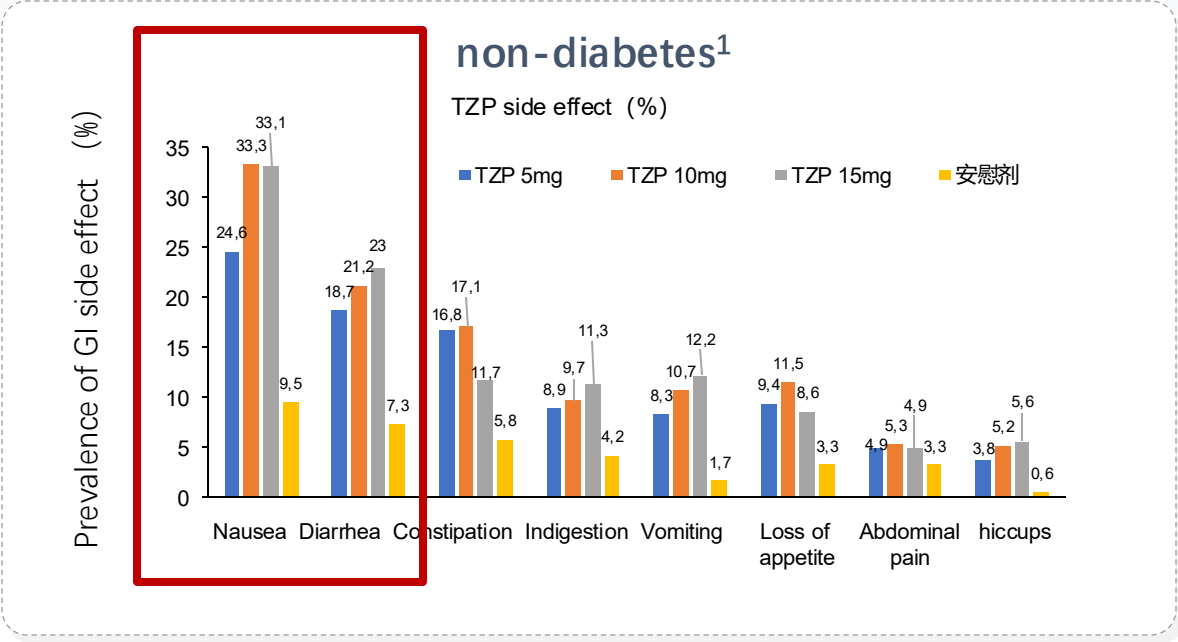
Bariatric surgery for specific population



BMI, body mass index measured in kg/m².

The side effects of AOM may restrict their application in the entire population

GI side effect is very common in patients using GLP-1 based medication and there are some patients could not tolerate.

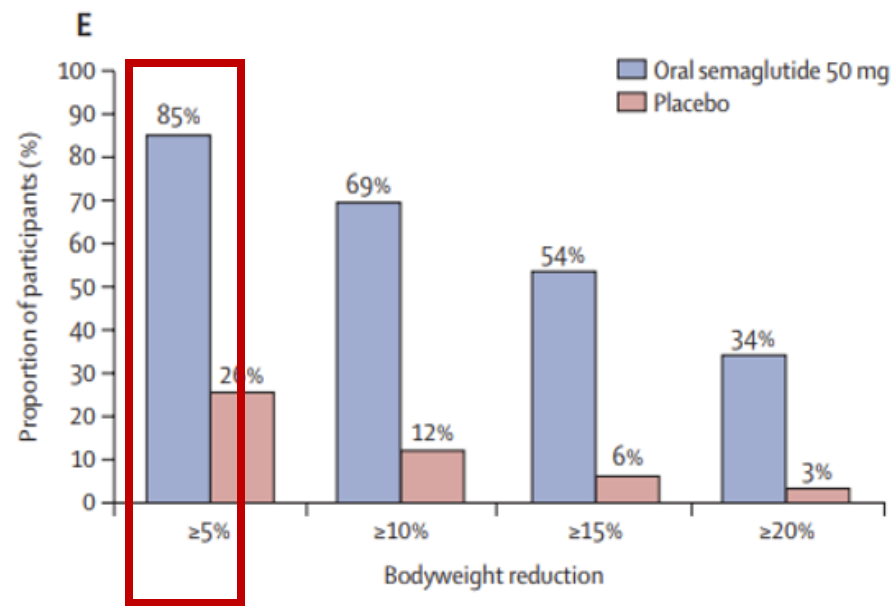


A phase III, double-blind, randomized controlled trial enrolled 2539 adults. Their body mass index (BMI ≥ 30 , or ≥ 27 , and having at least one weight-related complication (excluding diabetes) were randomly assigned to receive subcutaneous TZP (5mg, 10mg or 15mg) once a week or placebo for 72 weeks, including a 20-week dose escalation period. The primary endpoint was the percentage change in weight from baseline and achieving a weight reduction of 5% or more.

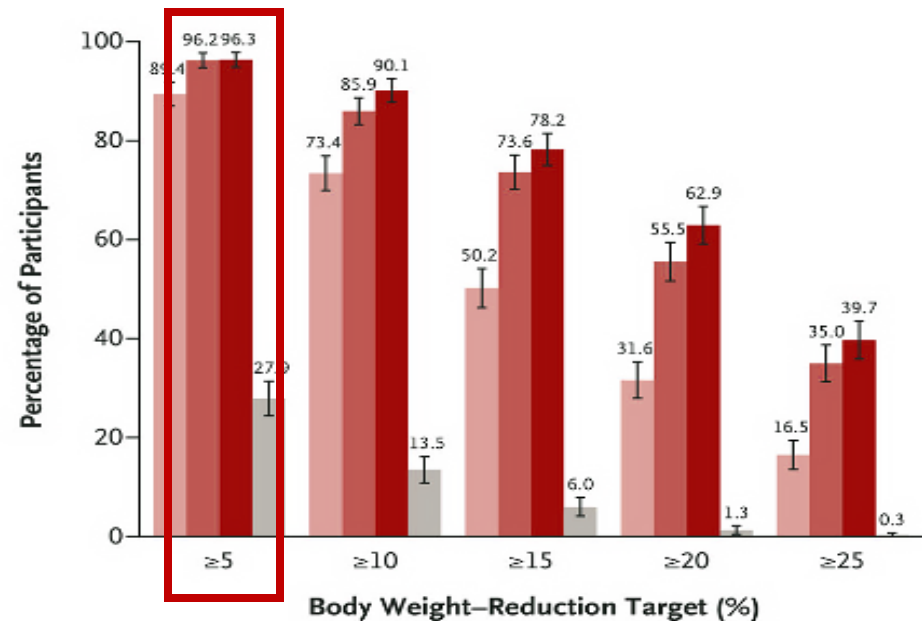
A phase III, double-blind, randomized, placebo-controlled, 72-week multicenter trial. The patients were diabetic obese adults (aged ≥ 18 years) with a BMI of 27 kg/m² or higher and an HbA1c level of 7-10% (53-86 mmol/mol). They were randomly assigned (1:1:1) to receive subcutaneous TZP (10 mg or 15 mg) or placebo once a week. The primary endpoint was the percentage change in weight from baseline and the achievement of a weight reduction of 5% or more.

Patients who can tolerate AOM still have the possibility of not achieving weight loss.

Among the patients who took semaglutide orally, 15% of them did not lose more than 5% of their body weight.

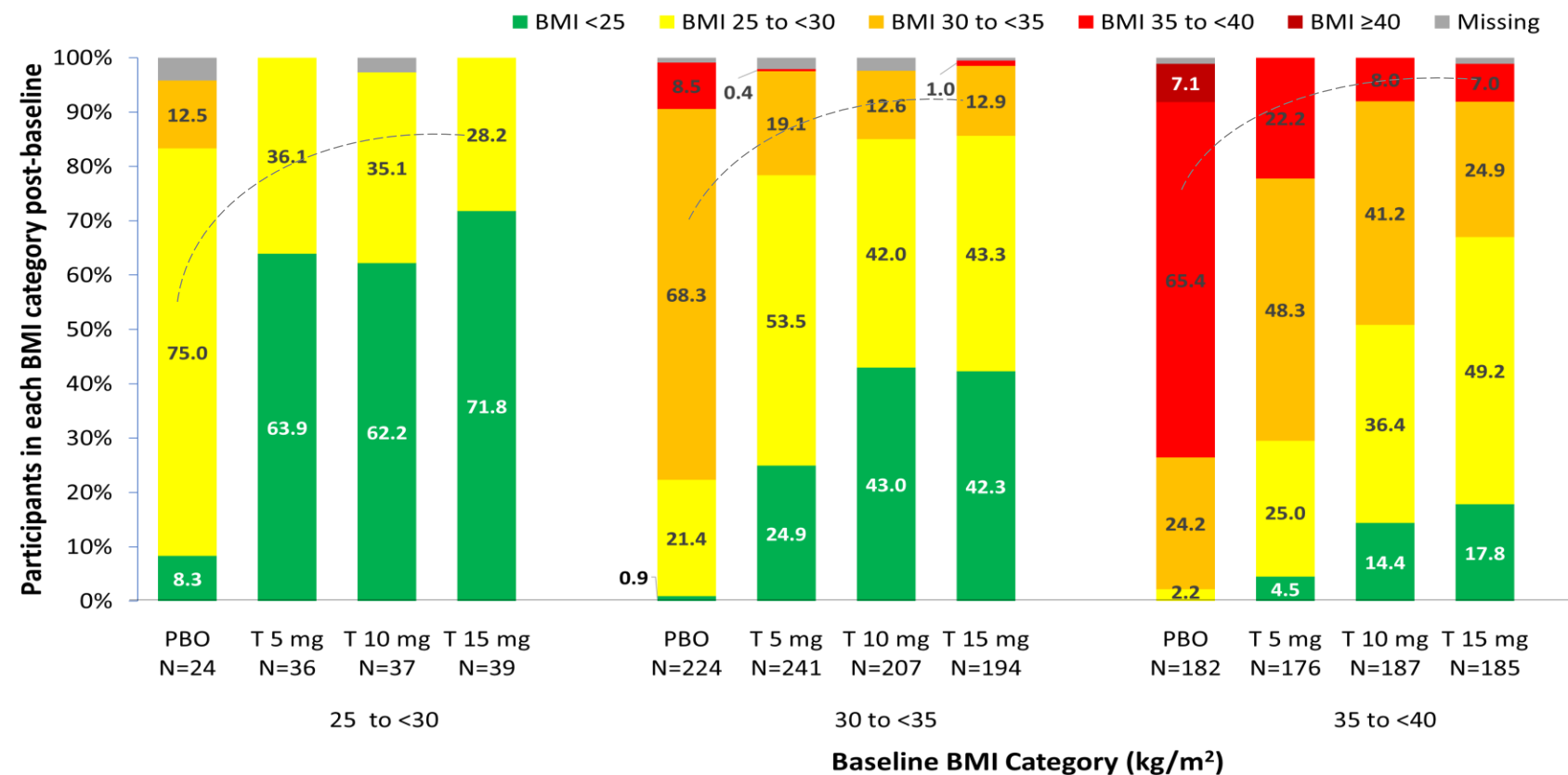


Among the patients who received the maximum tolerated dose of tirzepatide, 3-4% of them failed to lose more than 5% of their body weight.



Patients who can tolerate AOM and achieve effective weight loss may not necessarily reach the target weight

- The TZP treatment can reduce the BMI of most patients from their baseline level to a lower category, but there are still many patients who are overweight or obese.

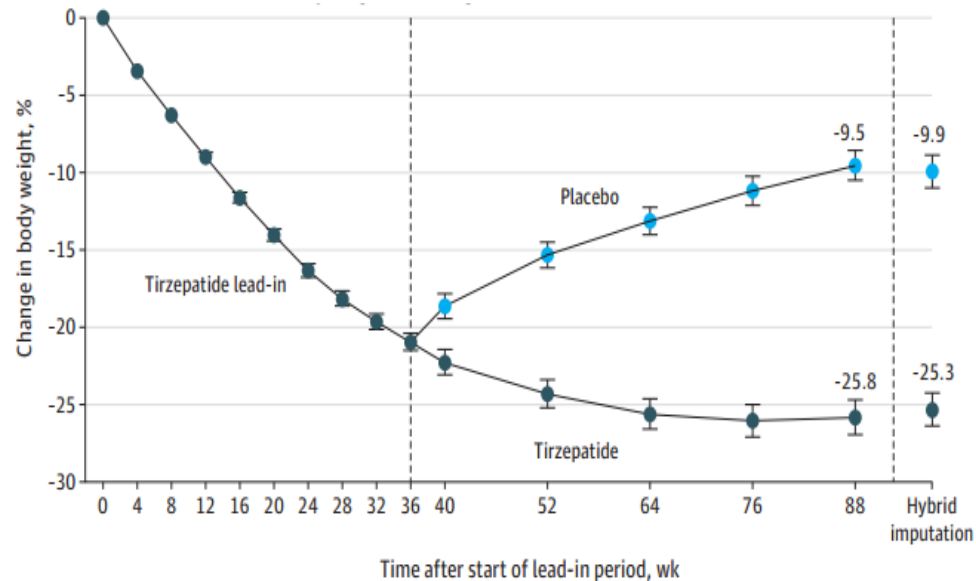


The post - hoc analysis of the SURMOUNT - 1 study compared the proportions of participants achieving their weight and waist circumference goals between those treated with Tirzepatide and those receiving a placebo, with patients stratified by gender and BMI category.

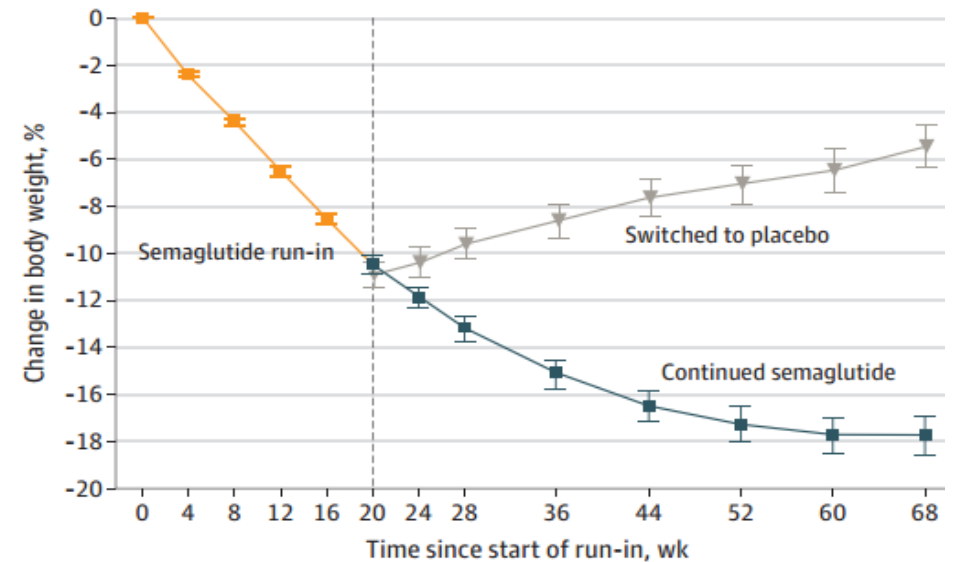
BMI body mass index; N , number of the patients ; PBO , placebo; T , tirzepatide

Weight regain is a common problem that obese patients who received non-surgical treatment need to face

Tirzepatide SURMOUNT-4 study: Percentage of body weight change (0 - 88 weeks)

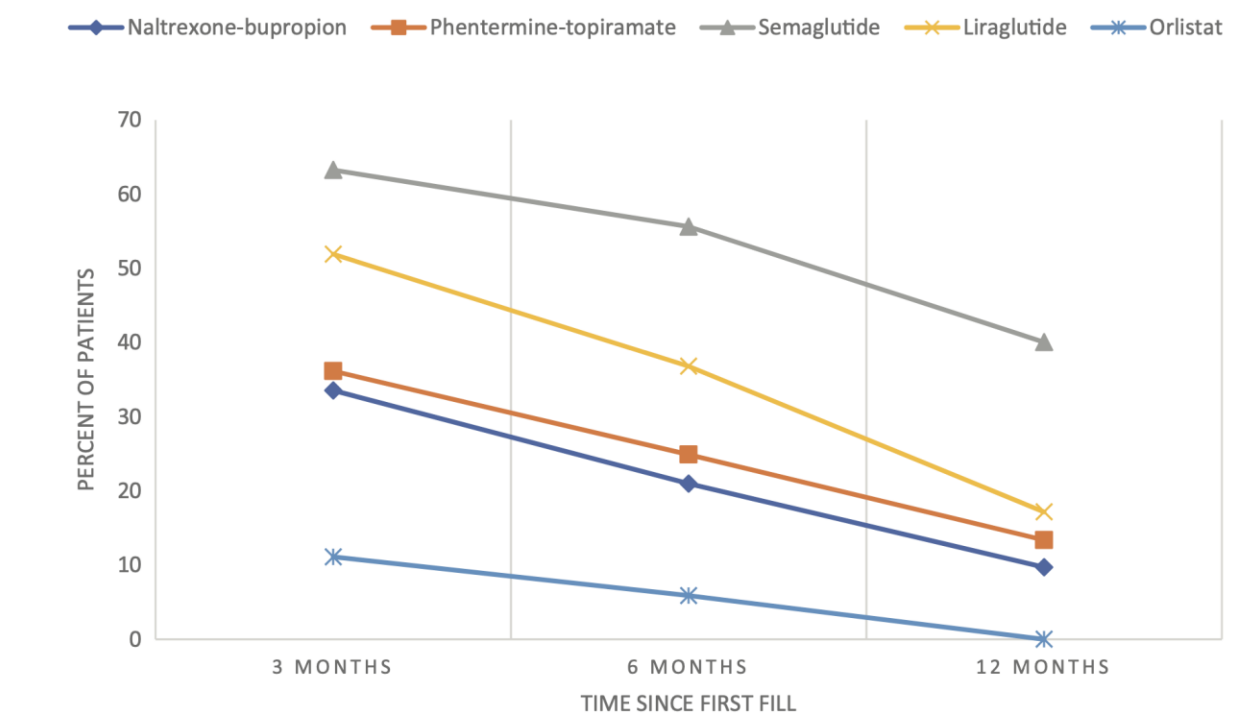


Semaglutide STEP-4 Study: Percentage of body weight change (0 - 68 weeks)



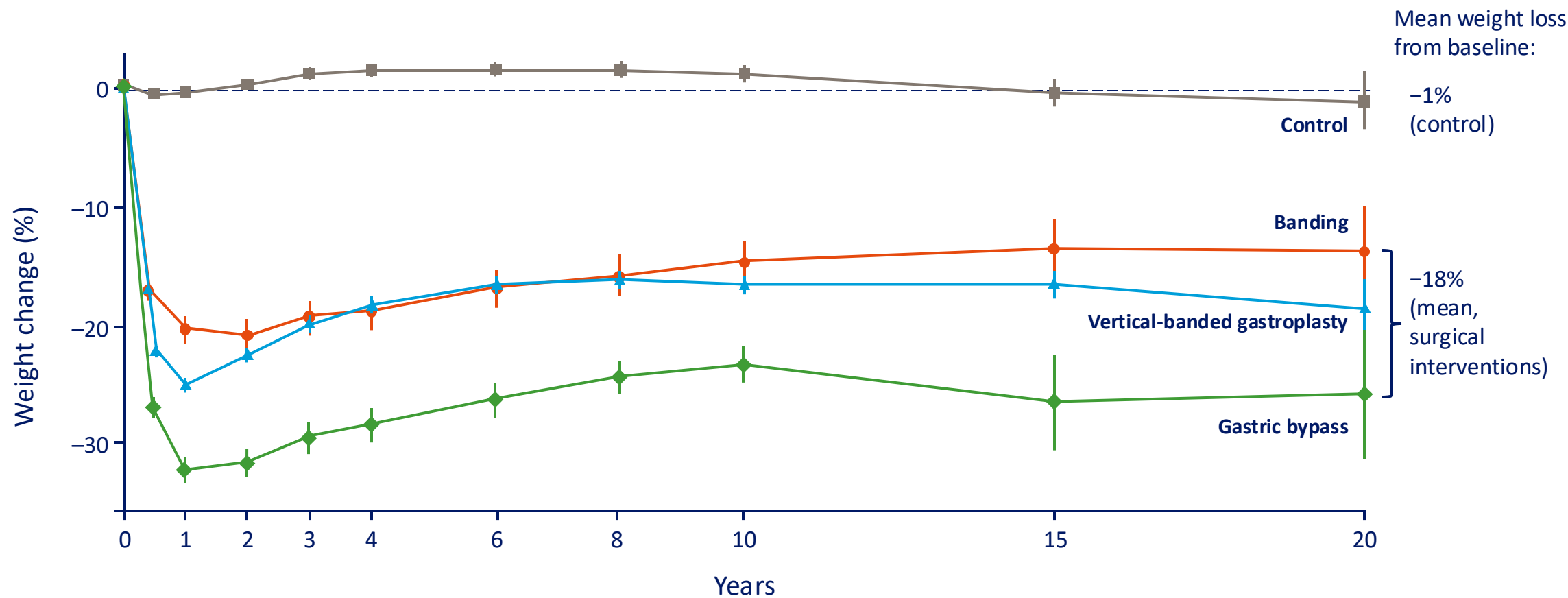
After 5 months of weekly injection of semaglutide, the body weight decreased by 10.6%. After 9 months of treatment with tirzepatide, the body weight decreased by 21.1%. However, **regardless of which drug was used, approximately half of the patients regained their weight within one year once the treatment was stopped.**

Medication adherence gradually declines as the duration of treatment increases



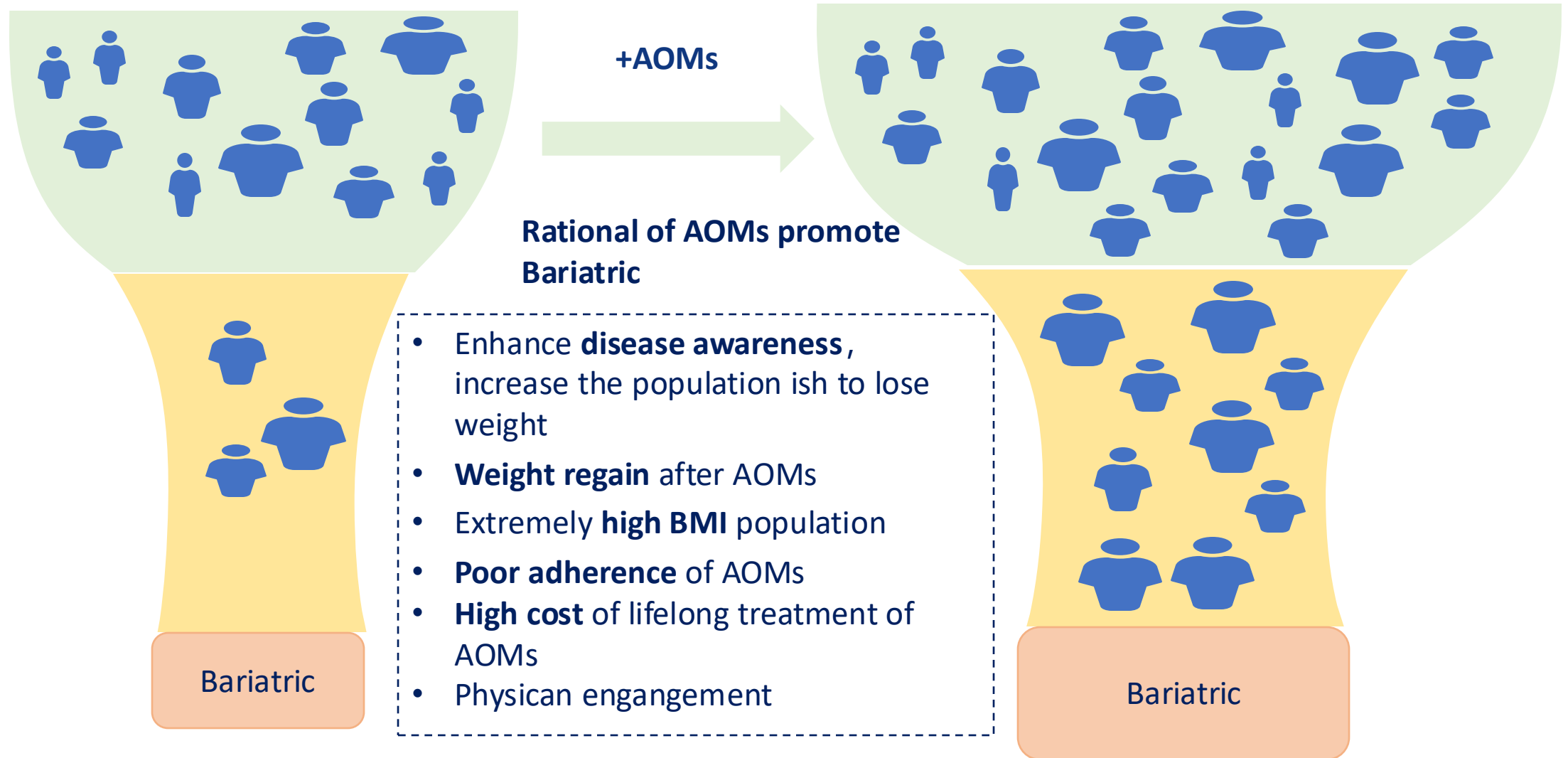
	Number of persistent patients/those with available follow-up at 3, 6, and 12 months		
	≥3 months	≥6 months	≥12 months
Semaglutide	303/479	262/471	161/402
Naltrexone-bupropion	220/656	137/653	61/628
Phentermine-topiramate	180/498	123/494	63/471
Liraglutide	135/260	92/250	40/233
Orlistat	2/18	1/17	0/17

Benefits of bariatric surgery: sustained weight loss over 20 years

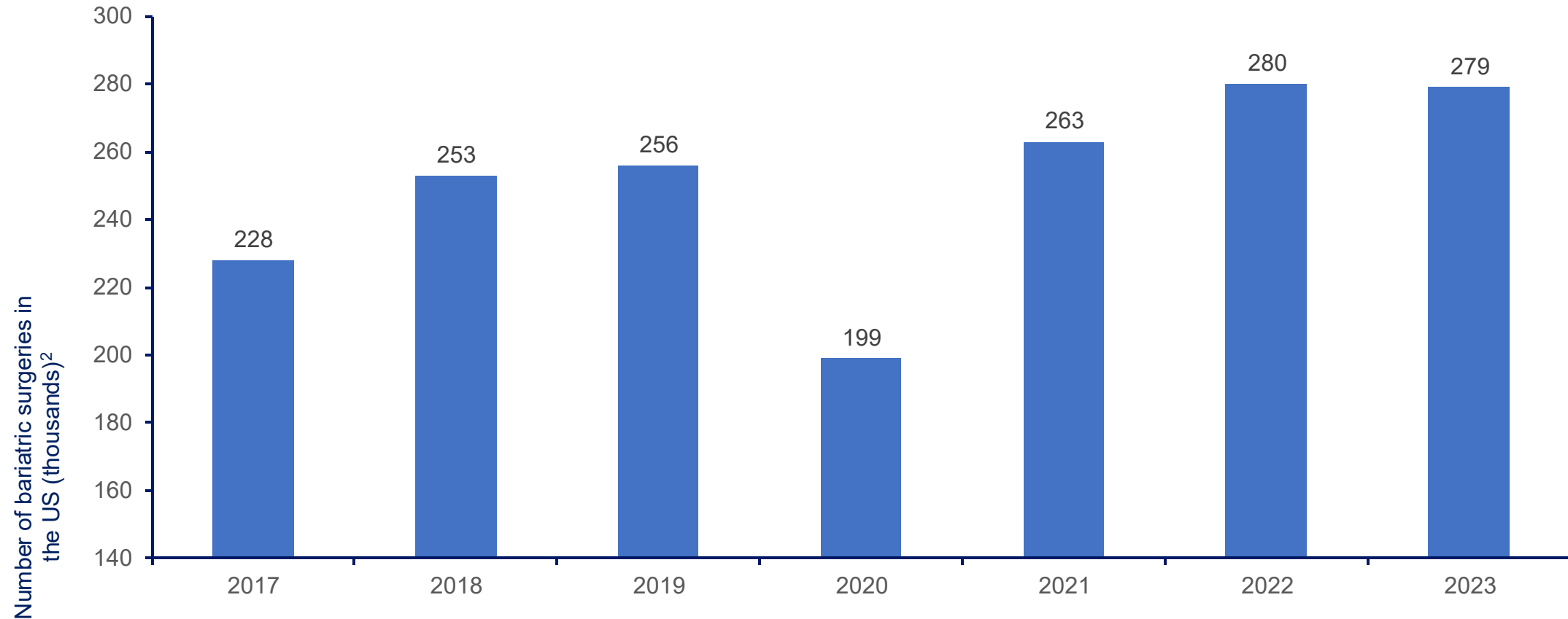


Data are mean $\pm$ 95% confidence interval

AOMs activates patients and increases chances of Bariatric Surgery



The number of BS is stable with remains low overall



- There was a 22.5% decrease in MBS volume from 2019 to 2020, which coincided with the COVID-19 pandemic



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Thank you for your attention