

Contemporary Prevalence, Comorbidity Burden, and Treatment of Overweight and Obesity: Insights From the Multicenter Mass General Brigham Healthcare System

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Plain Language Summary

- Why does it matter?** Obesity is very common in the United States, and the number of people with obesity is increasing. To improve obesity treatment, more information on the use of anti-obesity medication (AOM) is needed.
- How does it work?** Data from adult patients who were eligible for AOM were studied to determine the prevalence of conditions related to obesity and prescription of AOM.
- What did we find?** We found that conditions related to obesity are common and often include cardiovascular risk factors. Obesity is linked to cardiometabolic disease; however, most patients with cardiovascular risk factors who were eligible for AOM did not have an AOM prescription.

Introduction

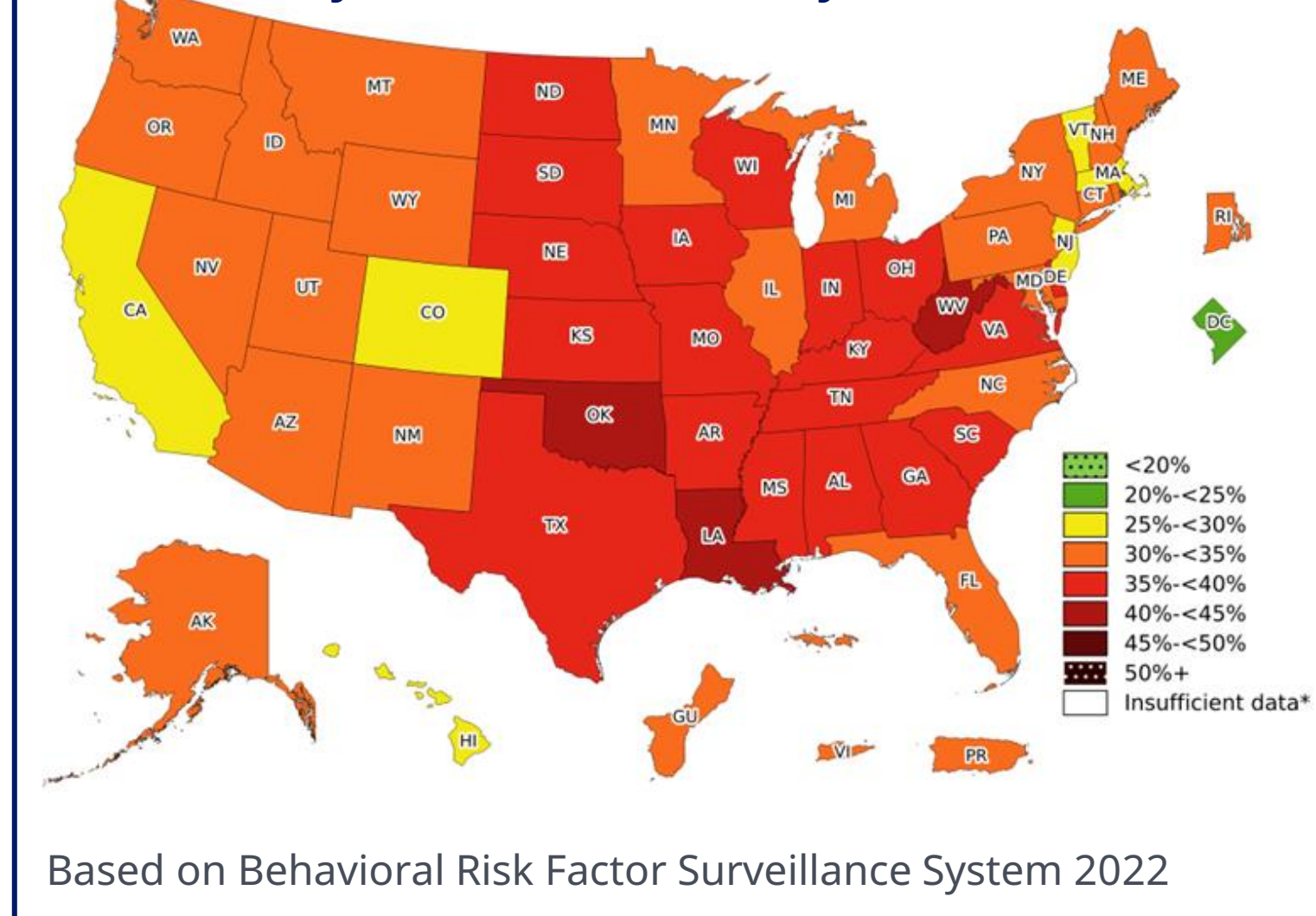
- There is a high prevalence of obesity in the United States (Figure 1), and it is estimated that over half of the world's population is forecasted to have either overweight or obesity by 2035¹.
- Real-world evidence is critical to identify treatment gaps and inform healthcare services design, but contemporary AOM use patterns are sparsely reported.
- The aim of this study was to characterize and describe patients with overweight and obesity across the Mass General Brigham (MGB) healthcare system by body mass index (BMI) category, AOM eligibility, demographics, medications, and labs, with a focus on cardiovascular disease (CVD), and patterns for obesity-related treatment.
- Additional objectives included understanding the current prevalence of obesity and obesity-related conditions (ORCs).

Methods

- This study was a cross-sectional analysis of the multicenter MGB healthcare system from 01/01/2018 to 01/01/2023.
- Adult patients eligible for AOM (BMI 27 to 29.9 kg/m² with ≥1 ORC or BMI ≥30 kg/m²) were identified.
- Administrative codes and available electronic health record data were used to ascertain the prevalence of ORCs.

- Prescription of FDA-approved AOM by BMI category, number of ORCs, number of key CVD risk factors, and the presence of prior major adverse cardiovascular events (MACE) were also evaluated.

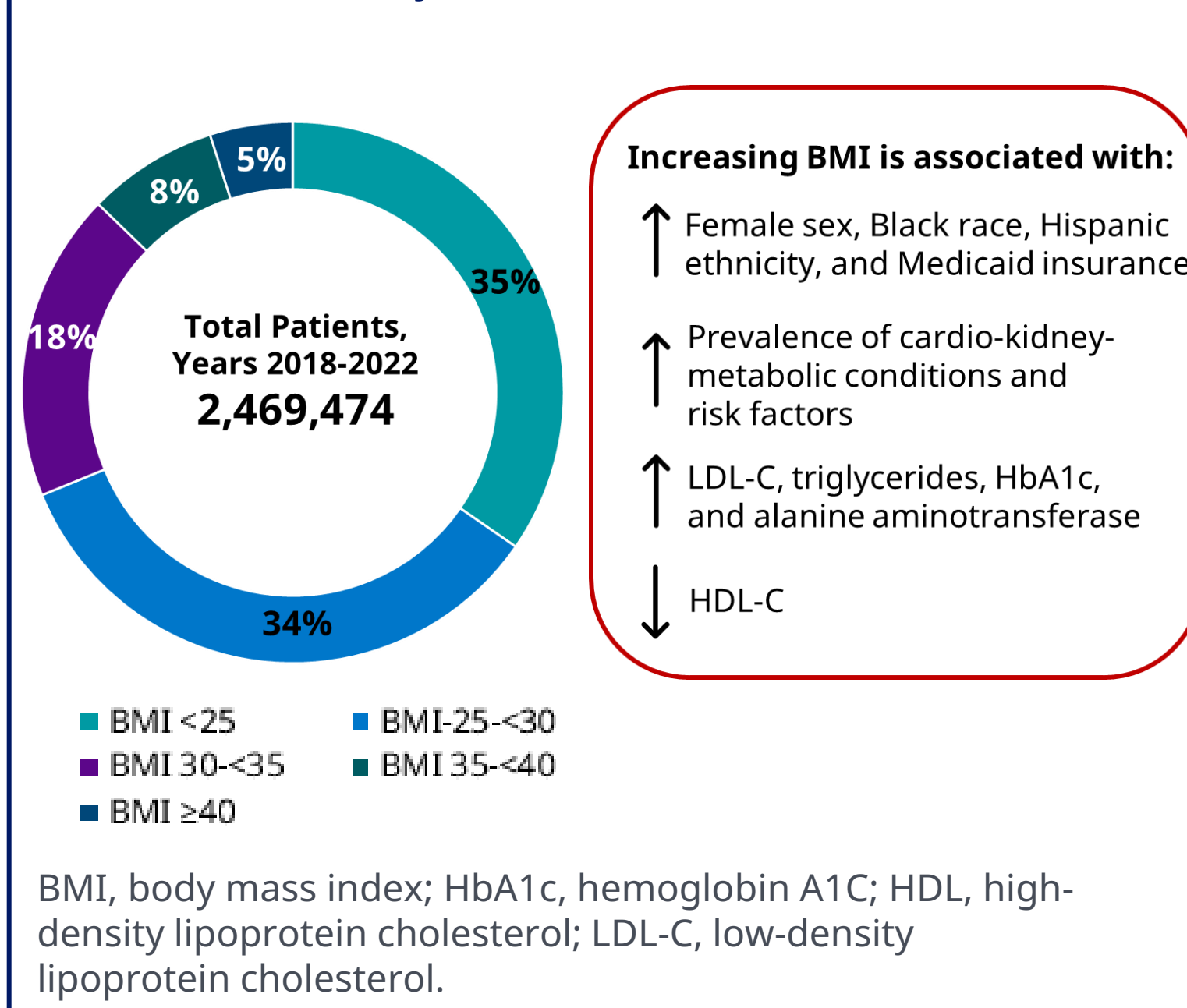
Figure 1: Prevalence of obesity among US adults by state and territory²



Results

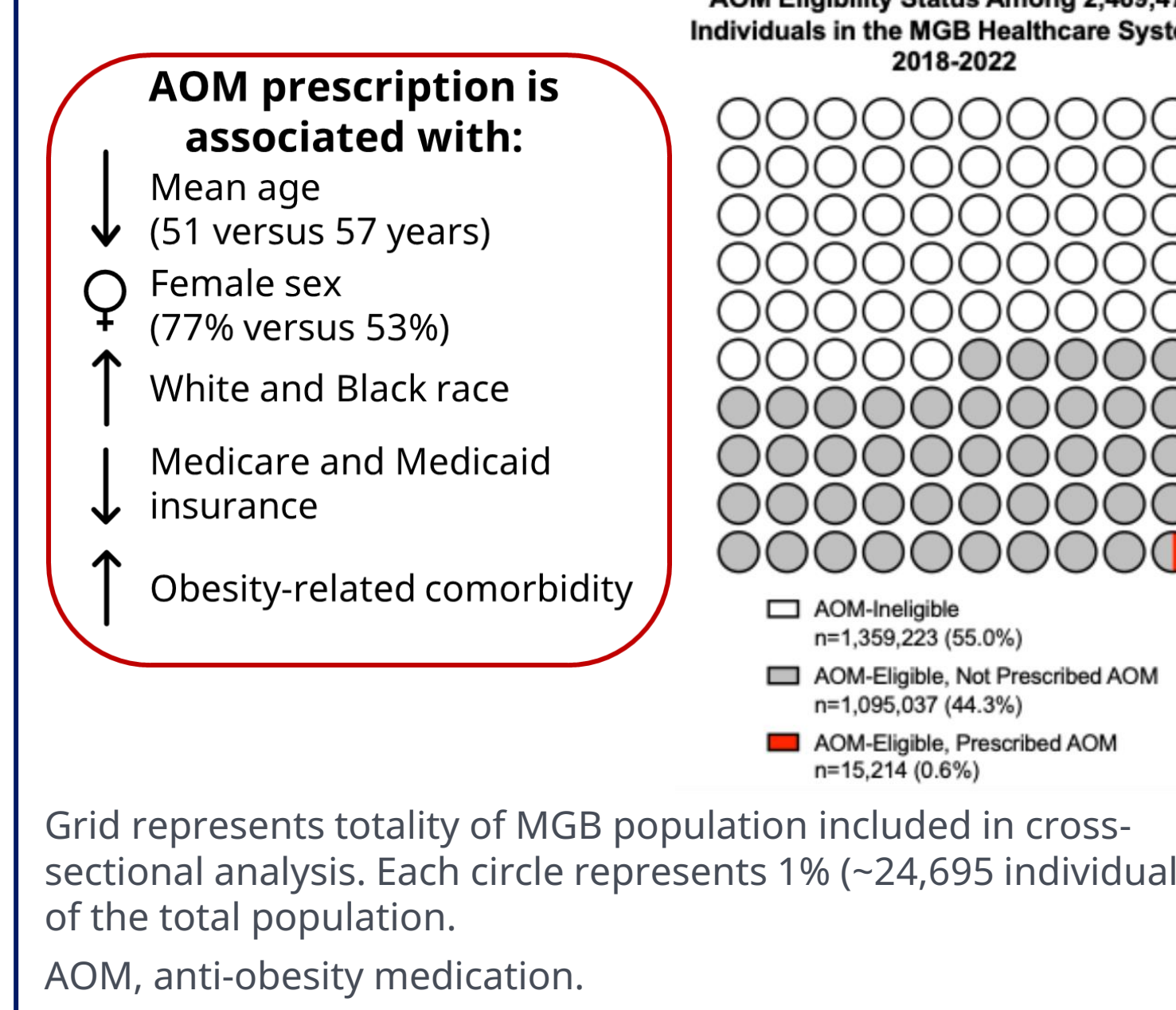
- Of 2,469,474 individuals who met inclusion criteria, 1,110,251 (45%) were eligible for AOM (median age, 54 years; 57% female).
- Overall, 35% of patients within the MGB system had a normal BMI, and 65% of patients, nearly 2 in 3, had overweight or obesity (Figure 2).

Figure 2: Prevalence of overweight or obesity in MGB system and BMI trends



- Of the 45% of patients eligible to receive AOM, only 1.4% were prescribed any FDA-approved AOM (Figure 3).
- Prior metabolic/bariatric surgery was seen in 1% of individuals. Musculoskeletal disorders (53%), dyslipidemia/hyperlipidemia (37%), and hypertension (35%) were the most common ORCs, with ≥2 ORCs observed in 62%.

Figure 3: AOM prescription patterns and visual representation of AOM eligibility and prescription



- ORC rates were higher in patients with BMI ≥40 kg/m² compared with patients with BMI 18.5 to <25 kg/m² (Figure 4).
- Among patients with BMI ≥40 kg/m² and ≥5 ORCs, about 3% to 4% are prescribed AOM (Figure 5) and about 6% to 9% are referred for weight management (Figure 6).
- AOM prescriptions increased modestly with higher BMI, ORC burden, and number of CVD risk factors (Figures 5, 7).
- For patients with cardiovascular factors and conditions, wide gaps in prescription for therapy exist. Among those with prior MACE (9%), 1% (also 1% without type 2 diabetes mellitus) were prescribed FDA-approved AOM (Figure 7).

Figure 4: Comparing ORC rates between patients with BMI 18.5 to <25 kg/m² and those with BMI ≥40 kg/m²

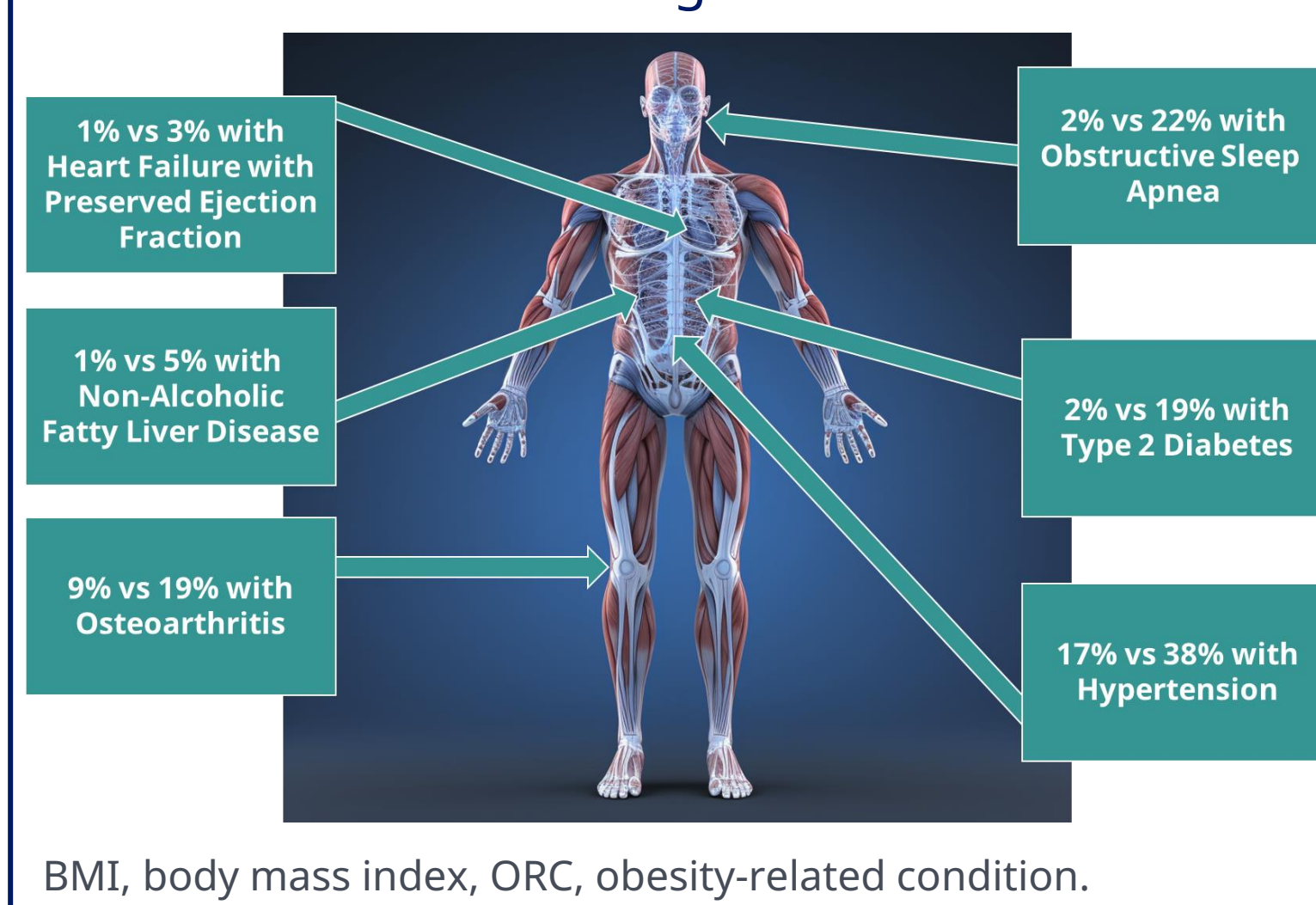


Figure 5: AOM prescription, overall, by BMI category, and number of ORCs

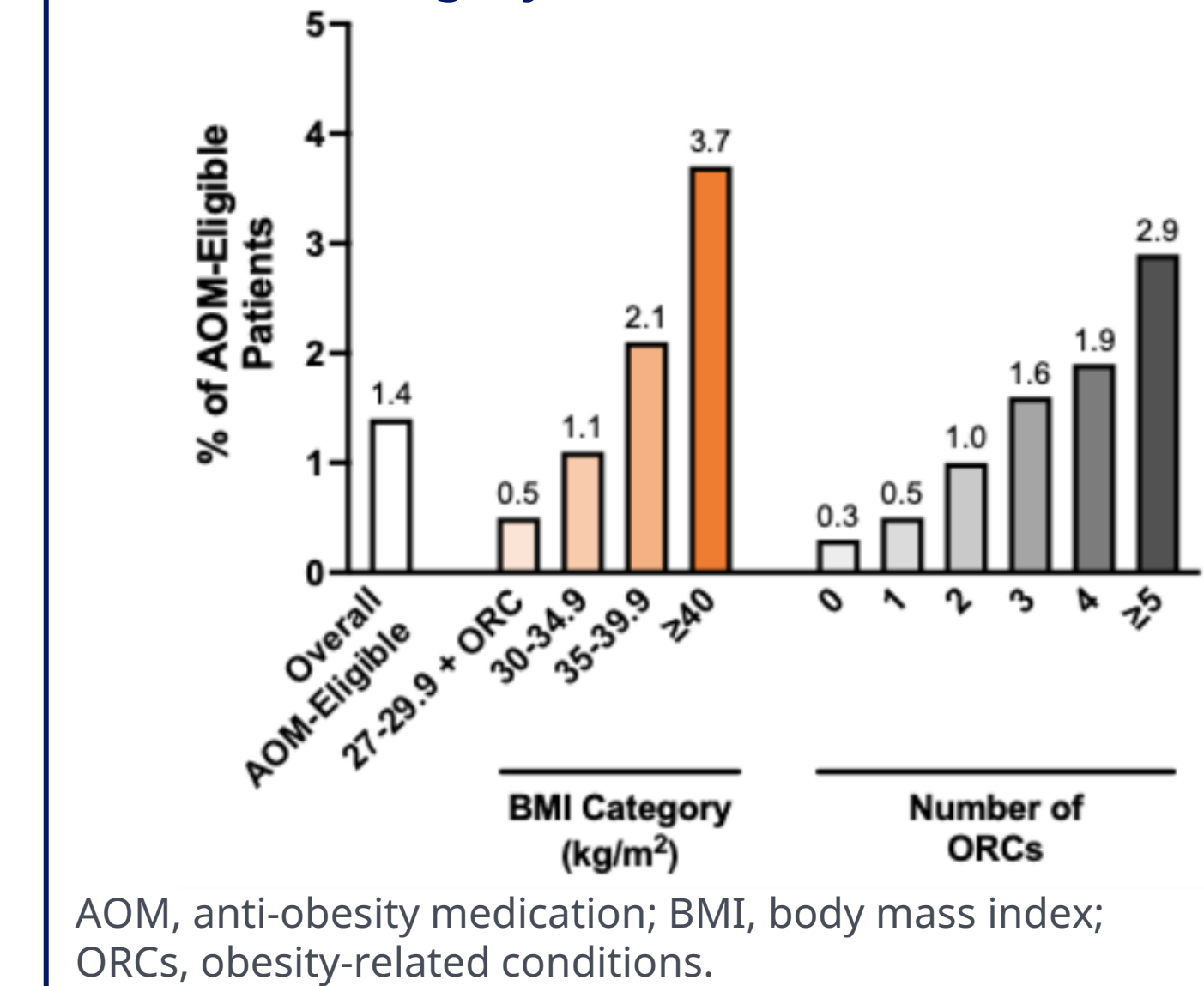


Figure 6: Referrals to MGB weight management clinics, overall, by BMI category, and number of ORCs

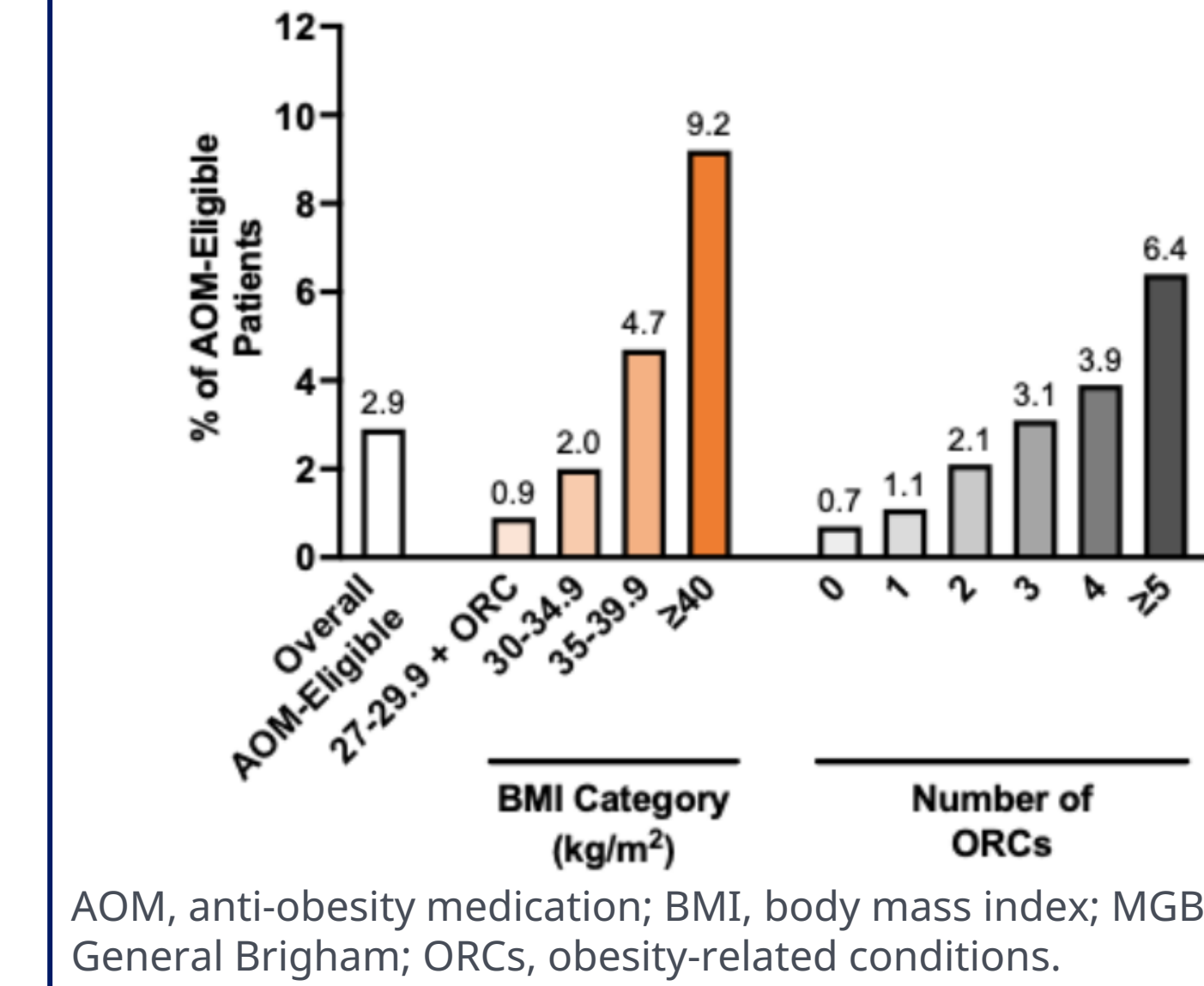
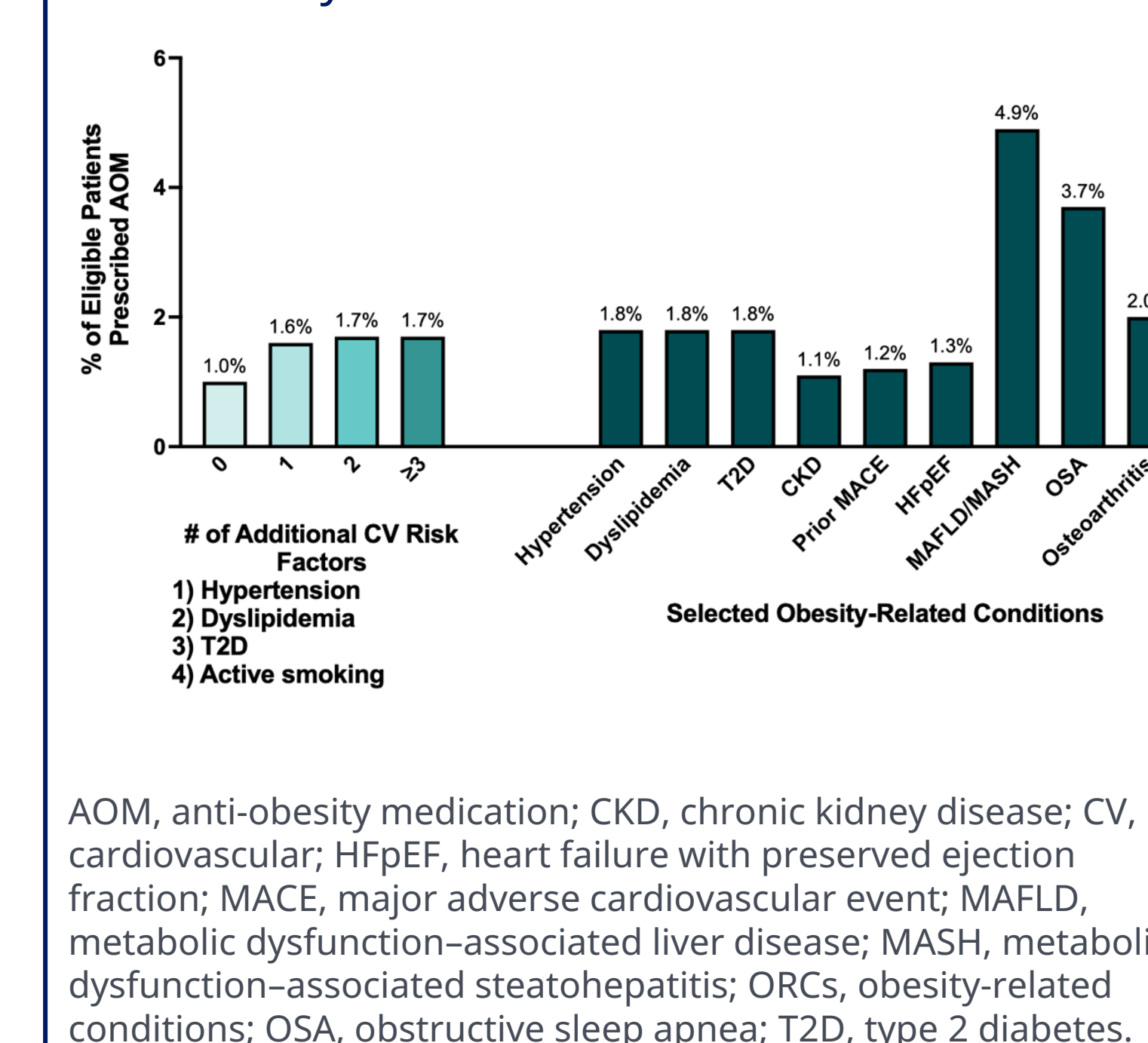
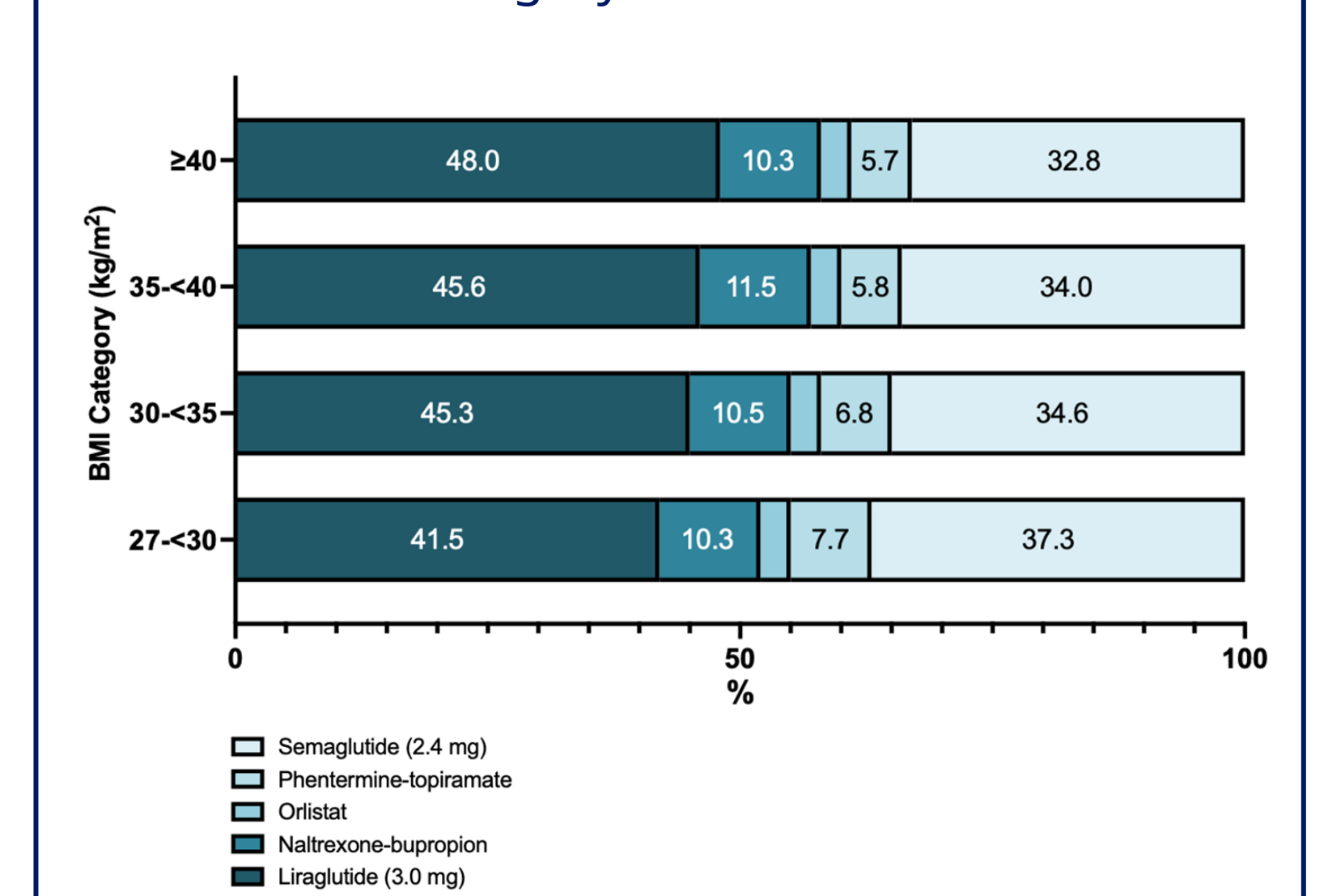


Figure 7: AOM prescription for eligible patients by CV risk factors and ORCs



- Liraglutide (3.0 mg) was the most prescribed AOM, followed by semaglutide (2.4 mg) across BMI categories (Figure 8).

Figure 8: Distribution of AOM type, by BMI category*



Conclusions

- Obesity is very common in the United States, and its prevalence is increasing¹.
- Obesity impacts those traditionally underserved in healthcare:
 - Individuals with higher BMI were more likely to have self-reported as female, and as Black race or Hispanic ethnicity
 - The proportion with Medicaid insurance increased with higher BMI
- ORCs are common and often include cardiovascular risk factors
- AOM prescription is seen more often in patients who are younger, female, those with commercial insurance, and those with multiple obesity-related comorbidities
- Overweight and obesity are associated with cardiometabolic disease, but about 99% of patients with multiple cardiovascular risk factors who were eligible for AOM did not have an active prescription for AOM
- Effective pharmacologic therapy exists for the treatment of overweight and obesity but is markedly underutilized

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