Provision of Diet, Exercise, Cholesterol and HbA1c Testing in Office Based Medical Visits Among Normal, Overweight, Obese, and Morbidly Obese Individuals in the US.

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BACKGROUND: Obesity contributes directly to incident cardiovascular risk factors, including dyslipidemia, type 2 diabetes, hypertension, and sleep disorders.[1]

OBJECTIVE: The objective of this study was to examine the provision of diet, exercise, cholesterol and HbA1c testing in office based medical visits among normal, overweight, obese, and morbidly obese individuals in the US.

METHODS :

- The 2018 National Ambulatory Medical Care Survey data was used to conduct the study.
- Main outcome was provision of diet/nutrition, exercise, weight-reduction counseling, cholesterol and HbA1c testing in normal (BMI:18-25), overweight (BMI:25-30), obese (BMI:30 – 40), and morbidly obese (BMI:40+) individuals.
- A logistic regression model was fit to examine main outcomes by BMI status.
- Survey weights are assigned to the sample visits to obtain national estimates.
- All models were adjusted for confounders: race, ethnicity, age, gender, MSA, and insurance status.
- Odds ratios are reported to describe differences in overweight, obese, and morbidly obese patients compared to normal weight patients.

Table 1. Sample size and selected patient demographics: US, 2018

	Normal (18 - 25)	Overweight (25 - 30)	Obese (30 - 40)	Morbidly Obese (40+)
N(%)	140,643,526 (28.3)	161,998,299 (32.6)	154,449,635 (31.1)	39,554,081 (7.9)
Age, Mean	52.1	57.6	56.5	53.9
Male %	17.2	17.6	17.9	5.0
Private Insurance (%)	57.3	54.2	60.2	56.5
White (%)	22.8	26.9	27.6	6.5

Figure 1. Differences in diagnostic screening tests offered across the three weight categories.
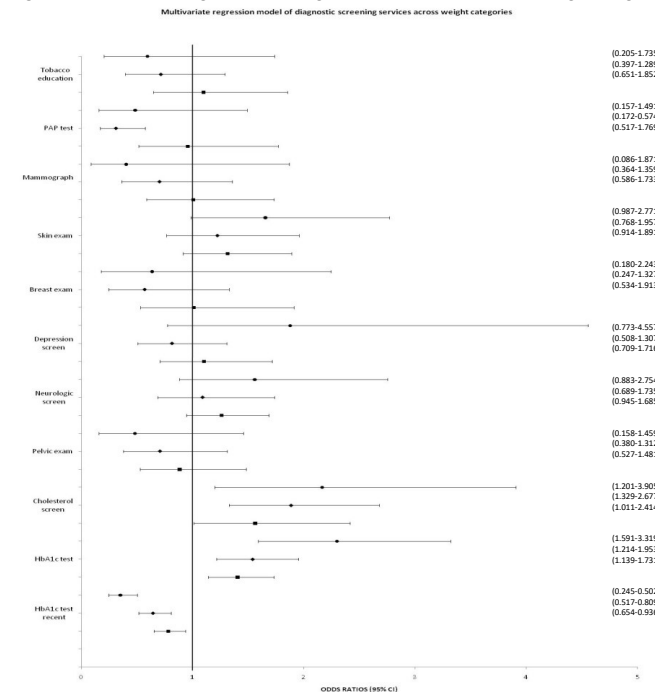
Footnote: Circles represent morbidly obese patients, diamonds represent obese patients, and squares represent overweight patients. *P < 0.05; CI, confidence interval.

RESULTS:

- The weighted study sample consisted of 496,622,621 outpatient visits primarily white (84%), male (58%), covered by private insurance (57%).
- Demographic characteristics and breakdown by weight categories are as shown in **Table 1.**
- Multivariate analysis **(Figure 1)** reveals that overweight, obese, and morbidly obese individuals received more HbA1c tests (OR, 1.02; CI, 1.01-1.03; OR, 3.47; CI, 2.31– 5.2; OR, 9.01; CI, 4.88–16.66), and lipid profile tests (OR, 1.56; CI, 1.01-2.41; OR, 1.88; CI, 1.32-2.67; OR, 2.16; CI, 1.20-3.90) compared to normal weight patients.
- Similar trends were observed in the provision of diet/nutrition, exercise, and weight reduction counseling services (OR, 3.31; CI, 1.49 –7.35; OR, 7.51; CI, 2.85 –19.76; OR, 18.47; CI, 7.40– 46.10).

CONCLUSIONS:

- Our study findings suggest that at risk individuals receive more weight-related services, such as testing for diabetes, cholesterol, diet, exercise, and weight reduction education compared to normal weight individuals.
- This study forms a baseline to examine disparity in provision of such services post-Covid (2019 and beyond) era given the disruption in the scarcity of health care professionals for such basic preventive services.

Reference: Powell-Wiley TM, Poirier P, Burke LE, et al. Obesity and Cardiovascular Disease: A Scientific Statement From the American Heart Association. *Circulation*. 2021;143(21):e984-e1010.