

Age-Based Disparities in Evaluation and Utilization of Metabolic and Bariatric Surgery: A Real-World Cohort Study



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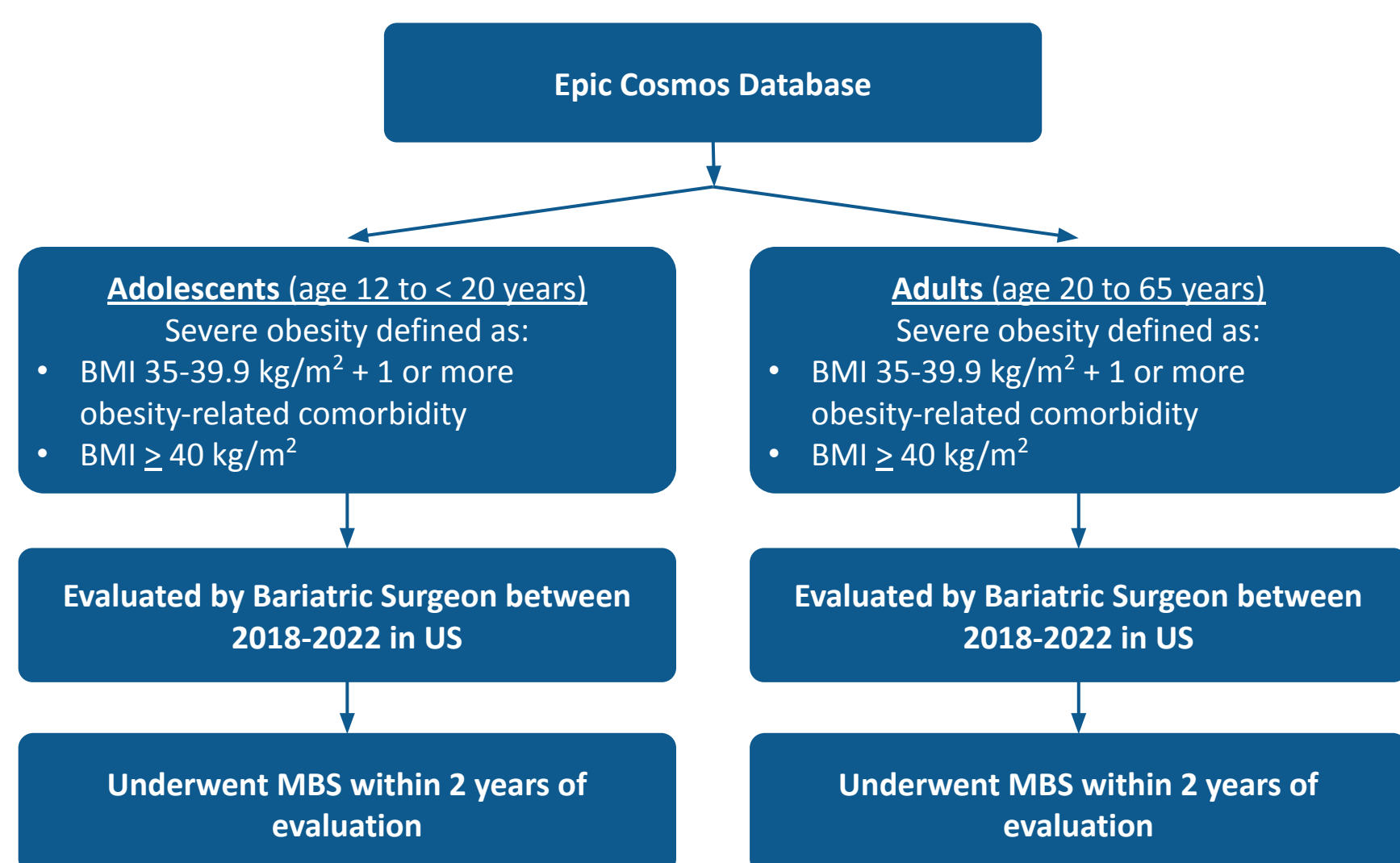
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Objective

- Longitudinal studies have established the **long-term safety and efficacy of metabolic and bariatric surgery (MBS) for adolescents and adults with severe obesity**.^{1,2}
- Despite guidelines recommending early MBS referral for adolescents with severe obesity, **few undergo MBS**.³
- We estimated **age-specific rates of receiving MBS within 24 months of bariatric surgery consultation** and identified sociodemographic and clinical **predictors of surgery** among adolescents and adults with severe obesity.

Methods

- Retrospective analysis** using Epic Cosmos
 - Electronic health record-based dataset including million patients, 2,067 hospitals, and 47.1K clinics
 - De-identified patient data from participating health systems
- Inclusion Criteria**



Analysis

- Annual rates of evaluation and surgery by age group
- Comparison of predictors of surgery status via chi-squared and t-tests (unadjusted odds ratios (OR) and 95% confidence intervals (95% CI))

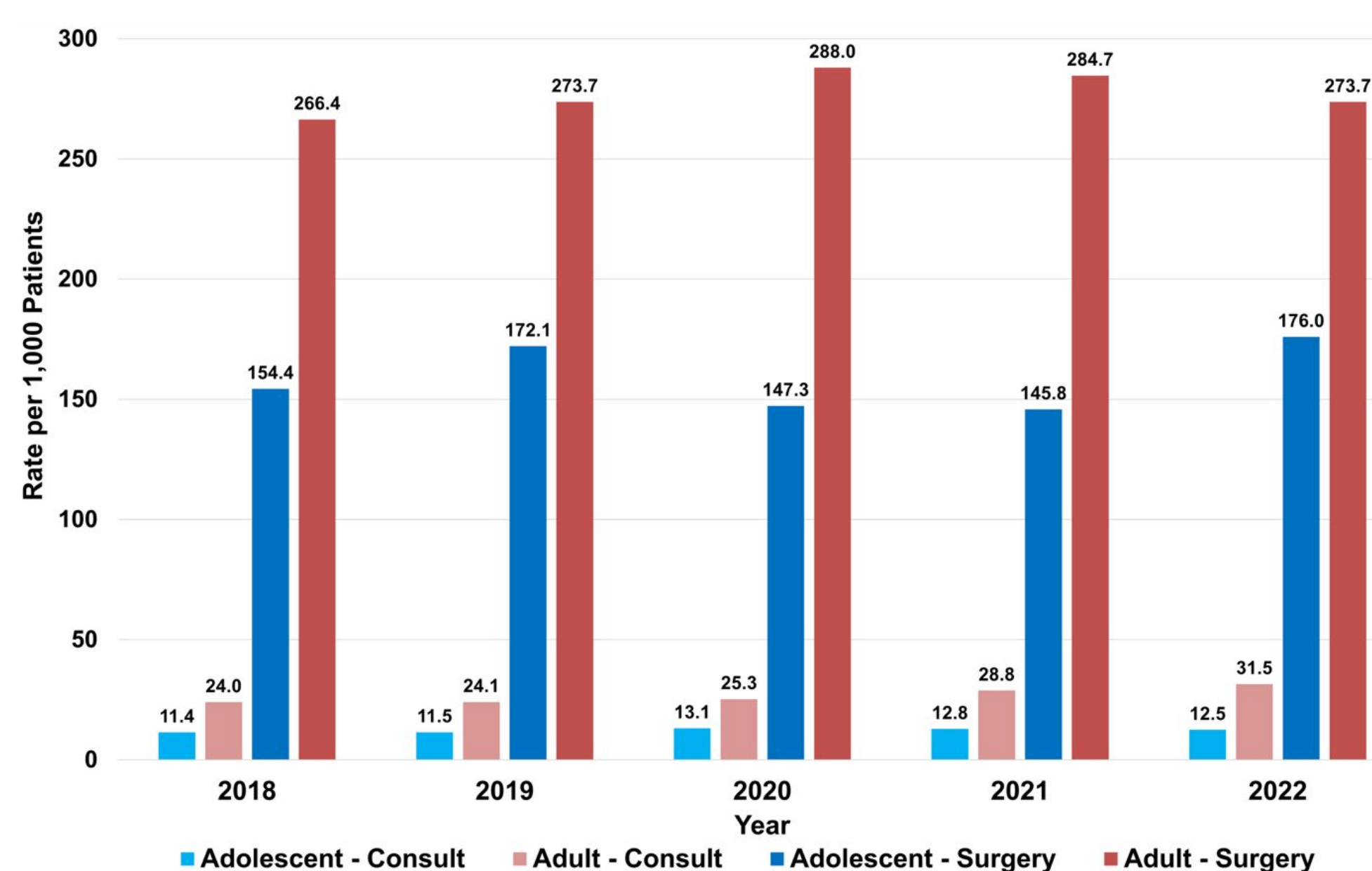
Results

Table 1. Overall MBS Evaluation and Utilization, 2018-2022

	Adolescents (age 12 to <20)	Adults (age 20 to 65)	OR (adults vs. adol.)	95% CI
Population with Severe Obesity	1,266,626	34,431,950	—	—
Consultation by Bariatric Surgeon	15,618 (1.2%)	934,752 (2.7%)	2.23	2.20 – 2.27
Underwent MBS Within 24 months of eval	2,488 (15.9% of evals)	259,554 (27.8% of evals)	2.03	1.94 – 2.12
Overall MBS Rate Among population with severe obesity	0.20%	0.75%	—	—

OR = odds ratio. All p < 0.05.

Figure 1. Annual Rate of MBS Evaluation and Utilization, 2018-2022



Rate per 1,000 adults or adolescents (where indicated) with severe obesity in Epic Cosmos.

Results

Table 2. Predictors of undergoing MBS, 2018-2022

Adolescents (Age 12 to <20)			
Predictor	Direction	OR	95% CI
Age ≤17 years (vs. 18–19)	▼ Lower odds	0.34–0.60	0.29–0.66 (age 14–17)
Male sex (vs. female)	▼ Lower odds	0.68	0.62–0.75
Rural residence (vs. urban)	▼ Lower odds	0.71	0.58–0.88
Obstructive sleep apnea	▲ Higher odds	2.51	2.24–2.83
Hypertension	▲ Higher odds	1.90	1.64–2.20
Type 2 diabetes	▲ Higher odds	1.44	1.20–1.74
MASLD	▲ Higher odds	1.41	1.17–1.70
Polycystic ovary syndrome	▲ Higher odds	2.08	1.78–2.42
Adults (Age 20 to 65)			
Predictor	Direction	OR	95% CI
Age ≥50 years	▼ Lower odds	0.76	0.75–0.77
Male sex (vs. female)	▼ Lower odds	0.72	0.71–0.73
Medicare coverage (vs. commercial)	▼ Lower odds	0.70	0.69–0.71
Uninsured (vs. commercial)	▼ Lower odds	0.67	0.64–0.69
Obstructive sleep apnea	▲ Higher odds	2.05	2.03–2.07
Hypertension	▲ Higher odds	1.73	1.71–1.75
Type 2 diabetes	▲ Higher odds	1.52	1.50–1.54
MASLD	▲ Higher odds	1.57	1.54–1.61
Polycystic ovary syndrome	▲ Higher odds	1.96	1.92–2.01
Age-Group Interactions			
Predictor	ROR	95% CI	Interpretation
Black or African American	1.15	1.05–1.27	Disparity in MBS access is proportionally larger in Black adolescents than Black adults
Medicaid coverage	1.67	1.51–1.86	Medicaid coverage is more strongly associated with MBS access in adults than adolescents

Key Takeaway

Adults with severe obesity were 2.2-fold more likely to be evaluated by a bariatric surgeon and 2-fold more likely to undergo MBS than their adolescent counterparts.

Conclusion

Substantial age-based disparities in MBS access exist. Improving MBS utilization rates in adolescents is a critical target for reducing the long-term burden of severe obesity.

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Disclosures

J.R. Ryder has previously served as a consultant for Calorify and received consulting fees from KraftHeinz. T.H. Inge has served as a consultant for Teleflex, Medtronic, Mediflix, and Eli Lilly; has received royalties from Wolters Kluwer (UpToDate); and previously received consulting fees from Brainstorm Cell Therapeutics. No other authors declare competing interests.