Supplementary Online Content

Tarride JE, Doumouras AG, Hong D, et al. Comparison of 4-year health care expenditures associated with Roux-en-Y gastric bypass vs sleeve gastrectomy. *JAMA Netw Open.* 2021;4(9):e2122079. doi:10.1001/jamanetworkopen.2021.22079

eTable 1. Eligible Population

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Eligible Population

	RYGB (N=6,301)	Sleeve (N=926)	Standardized Mean Difference
Age			
Mean (SD)	45.08 ± 10.27	48.36 ± 10.58	0.31
<45	3,047 (48.4%)	334 (36.1%)	0.25
45-54	1,993 (31.6%)	306 (33.0%)	0.03
55-64	1,149 (18.2%)	244 (26.3%)	0.20
65+	112 (1.8%)	42 (4.5%)	0.16
Sex			
Female	5,246 (83.3%)	692 (74.7%)	0.21
Male	1,055 (16.7%)	234 (25.3%)	0.21
Body Mass Index			
Mean (SD)	47.65 (6.93)	53.17 (9.67)	0.66
Year of Index date			
2010	93 (1.5%)	9 (1.0%)	0.05
2011	645 (10.2%)	101 (10.9%)	0.02
2012	1,658 (26.3%)	159 (17.2%)	0.22
2013	2,058 (32.7%)	313 (33.8%)	0.02
2014	1,529 (24.3%)	297 (32.1%)	0.17
2015	318 (5.0%)	47 (5.1%)	0.00
Income Quintile			
Lowest	1,407 (22.3%)	226 (24.4%)	0.05
2	1,455 (23.1%)	221 (23.9%)	0.02
3	1,309 (20.8%)	189 (20.4%)	0.01
4	1,228 (19.5%)	165 (17.8%)	0.04
Highest	885 (14.0%)	121 (13.1%)	0.03
Missing	17 (0.3%)	<=5	0.03

Marginalization Index (summary score)			
Mean (SD)	3.00 (0.75)	3.08 (0.73)	0.10
Total number of major Johns Hopkins Aggregated Diagnostic Groups			
Mean (SD)	5.96 (2.68)	6.93 (2.93)	0.35
Select medical conditions in preceding 5 years			
CRD / ESRD	113 (1.8%)	49 (5.3%)	0.19
CAD / PCI / CABS	826 (13.1%)	224 (24.2%)	0.29
Diabetes	2,129 (33.8%)	366 (39.5%)	0.12
Hypertension	2,765 (43.9%)	490 (52.9%)	0.18
Hypercholesterolemia	1,096 (17.4%)	146 (15.8%)	0.04
Mood and Anxiety Disorders Hospitalizations	92 (1.5%)	18 (1.9%)	0.04
Healthcare expenditure in preceding 5 years (total)			
Mean (SD)	$15,897 ($19,521)	$26,792 ($35,837)	0.38
Healthcare utilization in preceding year			
Mean (SD) number of days in hospital one-year prior index	0.24 (1.59)	0.64 (3.05)	0.17
Mean (SD) number of days in ED one-year prior index	0.68 (1.43)	0.92 (1.86)	0.15

Abbreviations: RYGB: Roux-en-Y-Bypass; SG: sleeve gastrectomy; SD: standard deviations; CRD: chronic renal disease; ESRD: end stage renal disease; CAD: coronary artery disease; PCI: percutaneous coronary intervention; CABS: coronary artery bypass surgery; N.A.: not applicable

eTable 2. Comparison of Unmatched vs Matched Sleeve Gastrectomy

	Unmatched Sleeve (N=114)	Matched Sleeve (N=812)	Standardized Mean Difference
Age			
Mean (SD)	50.41 (10.26)	48.07 (10.60)	0.22
<45	32 (28.1%)	302 (37.2%)	0.20
45-54	37 (32.5%)	269 (33.1%)	0.01
55-64	38 (33.3%)	206 (25.4%)	0.18
65+	7 (6.1%)	35 (4.3%)	0.08
Sex			
Female	71 (62.3%)	621 (76.5%)	0.31
Male	43 (37.7%)	191 (23.5%)	0.31
Body Mass Index			
Mean (SD)	62.36 (9.77)	51.88 (8.93)	1.12
Year of Index date			
2010	0 (0.0%)	9 (1.1%)	0.15
2011	13 (11.4%)	88 (10.8%)	0.02
2012	11 (9.6%)	148 (18.2%)	0.25
2013	37 (32.5%)	276 (34.0%)	0.03
2014	47 (41.2%)	250 (30.8%)	0.22
2015	6 (5.3%)	41 (5.0%)	0.01
Income Quintile			
Lowest	32 (28.1%)	194 (23.9%)	0.10
2	30 (26.3%)	191 (23.5%)	0.06
3	20 (17.5%)	169 (20.8%)	0.08
4	16 (14.0%)	149 (18.3%)	0.12
Highest	12 (10.5%)	109 (13.4%)	0.09

Missing	<=5	0 (0.0%)	0.27
Marginalization Index (summary score)			
Mean (SD)	3.15 (0.65)	3.07 (0.74)	0.12
Total number of major Johns Hopkins Aggregated Diagnostic Groups			
Mean (SD)	7.87 (3.20)	6.80 (2.87)	0.35
Select medical conditions in preceding 5 years			
CRD / ESRD	19 (16.7%)	30 (3.7%)	0.44
CAD / PCI / CABS	58 (50.9%)	166 (20.4%)	0.67
Diabetes	56 (49.1%)	310 (38.2%)	0.22
Hypertension	77 (67.5%)	413 (50.9%)	0.34
Hypercholesterolemia	13 (11.4%)	133 (16.4%)	0.14
Mood and Anxiety Disorders Hospitalizations	<=5	15 (1.8%)	0.05
Healthcare expenditure in preceding 5 years (total)			
Mean (SD)	$50,760 ($63,741)	$23,428 ($28,401)	0.55
Healthcare utilization in preceding year			
Mean (SD) number of days in hospital one-year prior index	1.69 (5.06)	0.50 (2.62)	0.30
Mean (SD) number of days in ED one-year prior index	1.04 (1.82)	0.91 (1.86)	0.07

Abbreviations: RYGB: Roux-en-Y-Bypass; SG: sleeve gastrectomy; SD: standard deviations; CRD: chronic renal disease; ESRD: end stage renal disease; CAD: coronary artery disease; PCI: percutaneous coronary intervention; CABS: coronary artery bypass surgery

eTable 3. Comparison of Unmatched vs Matched RYGB

	Unmatched RYGB (N=5,489)	Matched RYGB (N=812)	Standardized Mean Difference
Age			
Mean (SD)	44.66 (10.17)	47.90 (10.56)	0.31
<45	2,741 (49.9%)	306 (37.7%)	0.25
45-54	1,726 (31.4%)	267 (32.9%)	0.03
55-64	942 (17.2%)	207 (25.5%)	0.20
65+	80 (1.5%)	32 (3.9%)	0.15
Sex			
Female	4,625 (84.3%)	621 (76.5%)	0.20
Male	864 (15.7%)	191 (23.5%)	0.20
Body Mass Index			
Mean (SD)	47.02 (6.48)	51.91 (8.28)	0.66
Year of Index date			
2010	85 (1.5%)	8 (1.0%)	0.05
2011	549 (10.0%)	96 (11.8%)	0.06
2012	1,526 (27.8%)	132 (16.3%)	0.28
2013	1,773 (32.3%)	285 (35.1%)	0.06
2014	1,279 (23.3%)	250 (30.8%)	0.17
2015	277 (5.0%)	41 (5.0%)	0
Income Quintile			
Lowest	1,240 (22.6%)	167 (20.6%)	0.05
2	1,244 (22.7%)	211 (26.0%)	0.08
3	1,136 (20.7%)	173 (21.3%)	0.01
4	1,082 (19.7%)	146 (18.0%)	0.04
Highest	770 (14.0%)	115 (14.2%)	0.00
Missing	17 (0.3%)	0 (0.0%)	0.08

Marginalization Index (summary score)			
Mean (SD)	3.00 (0.75)	3.04 (0.74)	0.06
Total number of major Johns Hopkins Aggregated Diagnostic Groups			
Mean (SD)	5.83 (2.62)	6.81 (2.88)	0.35
Select medical conditions in preceding 5 years			
CRD / ESRD	87 (1.6%)	26 (3.2%)	0.11
CAD / PCI / CABS	670 (12.2%)	156 (19.2%)	0.19
Diabetes	1,819 (33.1%)	310 (38.2%)	0.11
Hypertension	2,353 (42.9%)	412 (50.7%)	0.16
Hypercholesterolemia	961 (17.5%)	135 (16.6%)	0.02
Mood and Anxiety Disorders Hospitalizations	85 (1.5%)	7 (0.9%)	0.06
Healthcare expenditure in preceding 5 years (total)			
Mean (SD)	$ 15,109 (17,835)	$21,220 (27,841)	0.26
Healthcare utilization in preceding year			
Mean (SD) number of days in hospital one-year prior index	0.21 (1.48)	0.48 (2.17)	0.15
Mean (SD) number of days in ED one-year prior index	0.64 (1.32)	0.91 (1.99)	0.16

Abbreviations: RYGB: Roux-en-Y-Bypass; SG: sleeve gastrectomy; SD: standard deviations; CRD: chronic renal disease; ESRD: end stage renal disease; CAD: coronary artery disease; PCI: percutaneous coronary intervention; CABS: coronary artery bypass surgery; N.A.: not applicable