

Supplemental Table A. Descriptive and clinical characteristics of the RYGB group only.

Teen-LABS Baseline and Post-surgical Follow-up Time Points for RYGB Group						
	pre-op	1-year	2-year	3-year	4-year	5-year
n	154	134	121	121	118	121
Age (yr)	17 (1.5)	18.2 (1.5)	19.3 (1.4)	20.1 (1.4)	21.2 (1.4)	22.2 (1.5)
Sex (male) (%)	23%	22%	18%	22%	19%	21%
Race						
-White (%)	73%	72%	71%	73%	72%	73%
-Black (%)	23%	23%	24%	22%	23%	23%
-Other (%)	4%	5%	5%	5%	5%	4%
Height (cm)	167.7 (8.3)	167.7 (8.6)	167.9 (8.5)	167.9 (8.9)	168.4 (8.7)	167.9 (9.4)
Weight (kg)	151.4 (29.6)	106.3 (27.1)	106.3 (29.4)	109.8 (31.9)	112.5 (34.7)	114.1 (31.6)
BMI (kg/m²)	53.8 (9.6)	37.8 (9.3)	37.8 (10.4)	39.1 (11.3)	39.7 (12)	40.6 (11.2)
SBP (mmHg)	127 (13)	117 (13)	117 (12)	118 (14)	118 (15)	120 (12)
TC (mg/dL)	159 (30)	145 (29)	149 (28)	149 (27)	154 (32)	153 (29)
HDL-c (mg/dL)	38 (9)	49 (10)	53 (13)	54 (15)	56 (16)	55 (15)
Smoking (%)	1.3%	3.0%	5.0%	7.4%	5.9%	7.4%
Diabetes (%)	14.9%	3.0%	1.7%	0.8%	3.4%	2.5%
Anti-HTN Meds (%)	22.7%	8.2%	5.8%	6.6%	6.8%	5.0%

Data are presented as mean (SD) and percentages.

Abbreviations (in order of appearance): pre-op = Before Surgery; BMI = body mass index; SBP = systolic blood pressure; TC = total cholesterol; HDL-c = high-density lipoprotein cholesterol; ant-HTN meds = prescribed anti-hypertension medications.

Supplemental Table B. Descriptive and clinical characteristics of the VSG Group only.

Teen-LABS Baseline and Post-surgical Follow-up Time Points for VSG Group						
	pre-op	1-year	2-year	3-year	4-year	5-year
n	61	47	47	41	48	37
Age (yr)	16.9 (1.6)	18.1 (1.5)	19.2 (1.6)	20.3 (1.6)	21.1 (1.6)	21.7 (1.7)
Sex (male) (%)	31%	36%	36%	29%	35%	38%
Race						
-White (%)	69%	70%	64%	61%	69%	70%
-Black (%)	23%	24%	28%	29%	23%	19%
-Other (%)	8%	6%	8%	10%	8%	11%
Height (cm)	169.5 (9.2)	169.4 (10.4)	171.3 (9.7)	168.8 (11.3)	169.7 (10.1)	169.6 (11.7)
Weight (kg)	146.3 (32.5)	100.5 (26.6)	103.3 (27)	104.6 (31.2)	108.9 (32.2)	113.2 (33.4)
BMI (kg/m²)	50.6 (8.5)	34.8 (7.5)	35.1 (8)	36.5 (9.6)	37.6 (9.6)	39.2 (10.2)
SBP (mmHg)	123 (13.8)	116 (13.2)	122 (15.4)	119 (13.1)	122 (12.8)	128 (16.8)
TC (mg/dL)	152 (30.4)	154 (31.7)	153 (30.8)	156 (30.7)	160 (42.1)	160 (28.6)
HDL-c (mg/dL)	37 (8.5)	47 (12.3)	51 (10.8)	51 (11.7)	53 (12.8)	53 (13.8)
Smoking (%)	3.3%	4.3%	10.6%	12.2%	8.3%	21.6%
Diabetes (%)	9.8%	0.0%	2.1%	0.0%	0.0%	2.7%
Anti-HTN Meds (%)	23.0%	8.5%	2.1%	2.4%	4.2%	5.4%

Data are presented as mean (SD) and percentages.

Abbreviations (in order of appearance): pre-op = Before Surgery; BMI = body mass index; SBP = systolic blood pressure; TC = total cholesterol; HDL-c = high-density lipoprotein cholesterol; ant-HTN meds = prescribed anti-hypertension medications.

Supplemental Table C.

Risk Level	TL Pre-op (n=215)		TL 1-year (n=181)		TL 2-year (n=168)		TL 3-year (n=162)		TL 4-year (n=166)		TL 5-year (n=158)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
>5%	113	52.6%	40	22.10%	36	21.40%	38	23.50%	44	26.50%	53	33.50%
>10%	48	22.3%	8	4.40%	6	3.60%	7	4.30%	9	5.40%	11	7.00%
>15%	23	10.7%	3	1.70%	2	1.20%	3	1.90%	2	1.20%	3	1.90%
>20%	12	5.6%	2	1.10%	1	0.60%	1	0.60%	1	0.60%	2	1.30%

Supplemental Table D. Cost-effectiveness Models of Bariatric Surgery for Reducing Cardiovascular Events.

Groups	Cost Excluding Surgery (\$)	Cost Including Surgery (\$)	QALY	ICER (\$/QALY)
Control	8,298.14	8,298.14	16.8	13,432.64
Bariatric Surgery	5,179.48	29,855.07	18.5	

Supplemental Table E.Probability Estimates

Probability of Cardiovascular Events			
	Male	Female	Reference
MI	0.31	0.16	[1]
Angina	0.13	0.055	
Heart Failure	0.23	0.30	
Stroke	0.18	0.11	
PAD	0.19	0.35	
CA	0.019	0.035	
Probability of Dying from Cardiovascular Event			
MI	0.16	0.17	[2]
Heart Failure	0.059	0.066	
Stroke	0.14	0.18	
CA	0.836	0.836	
Other Model Inputs			
CABG given MI		0.082	[3]
PTCA given MI		0.3	
CABG given Angina		0.2	
PTCA given Angina		0.3	

Costs Estimates:

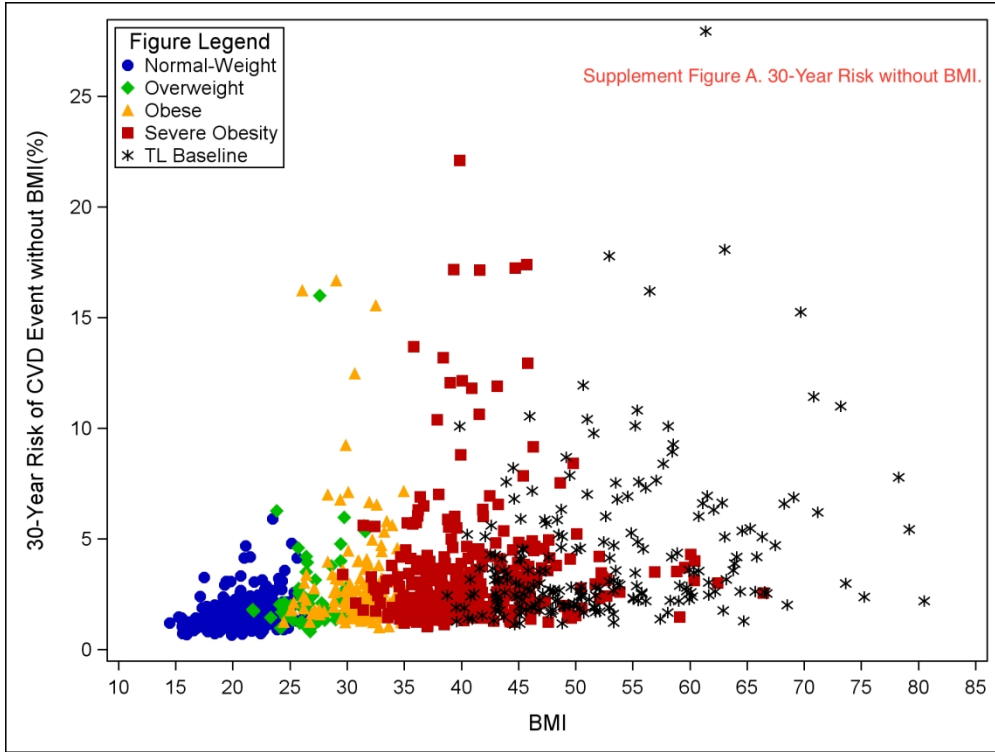
	Cost, 2015 \$	Reference
MI, year 1	63443.22	[4]
MI, year 2+	10173.78	
MI, fatal	17604.06	
Angina, year 1	29721.15	[4]
Angina, year 2+	2800.65	
Heart Failure, year 1	46985.51	[5]
Heart Failure, year 2+	18129.80	
Heart Failure, fatal		
Stroke, year 1	49298.70	[2,4,6-10]
Stroke, year 2+	14494.32	
Stroke, fatal	17994.54	
PAD, year 1	19127.13	[11]
PAD, year 2+	7670.85	[12]
Cardiac arrest, year 1	64586.34	[4]
Cardiac arrest, year 2+	3657.99	
Cardiac arrest, fatal	17489.75	
CABG	37608.68	[4]

CABG, diff ref	67407.08	[5]
CABG, year 2+	3489.28	[5]
PTCA	35436.75	[4]
PTCA, diff ref	37402.38	[5]
PTCA, year 2+	7828.17	[5]
Initial surgery (GB)	\$25,070.48	
Initial surgery (SG)	\$23,708.80	
Initial surgery – weighted average	\$24,675.59	

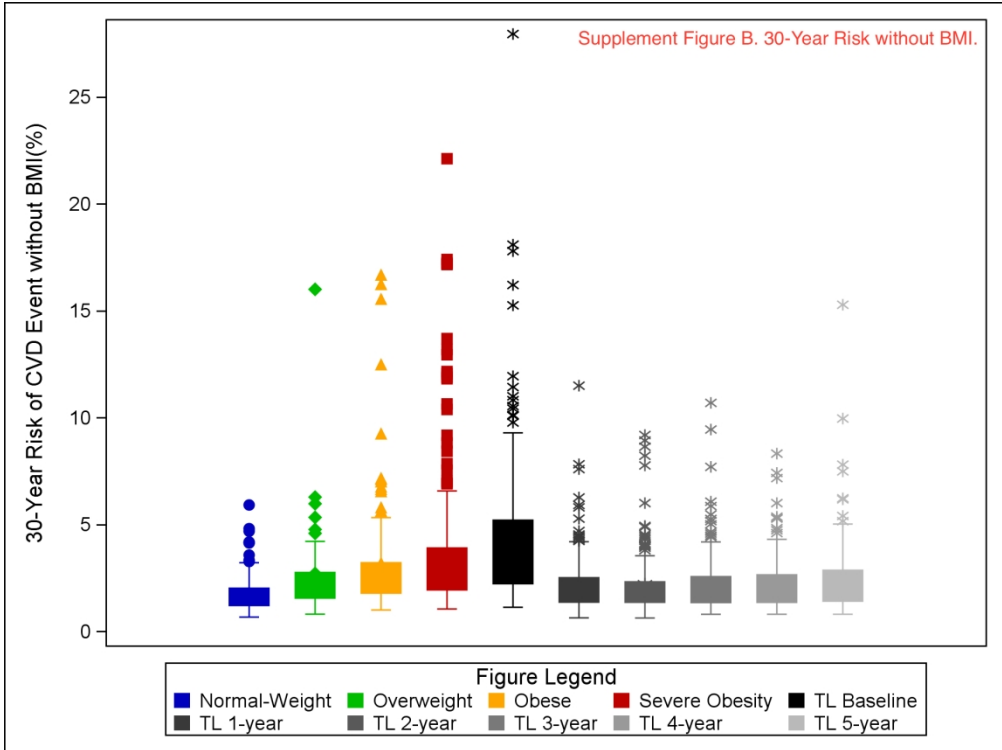
Utilities Estimates

	Utility	Reference
Baseline	0.72	[16]
Gain per unit of BMI lost	0.0056	[17]
MI, year 1	0.67	[18]
MI, year 2+	0.82	
Angina, year 1	0.67	[18]
Angina, year 2+	0.82	
Heart Failure, year 1	0.60	[18]
Heart Failure, year 2+	0.57	
Stroke, year 1	0.33	[18]
Stroke, year 2+	0.52	
PAD, year 1	0.67	[19]
Cardiac arrest, year 1	0.39	[20]
Cardiac arrest, year 2+	0.75	

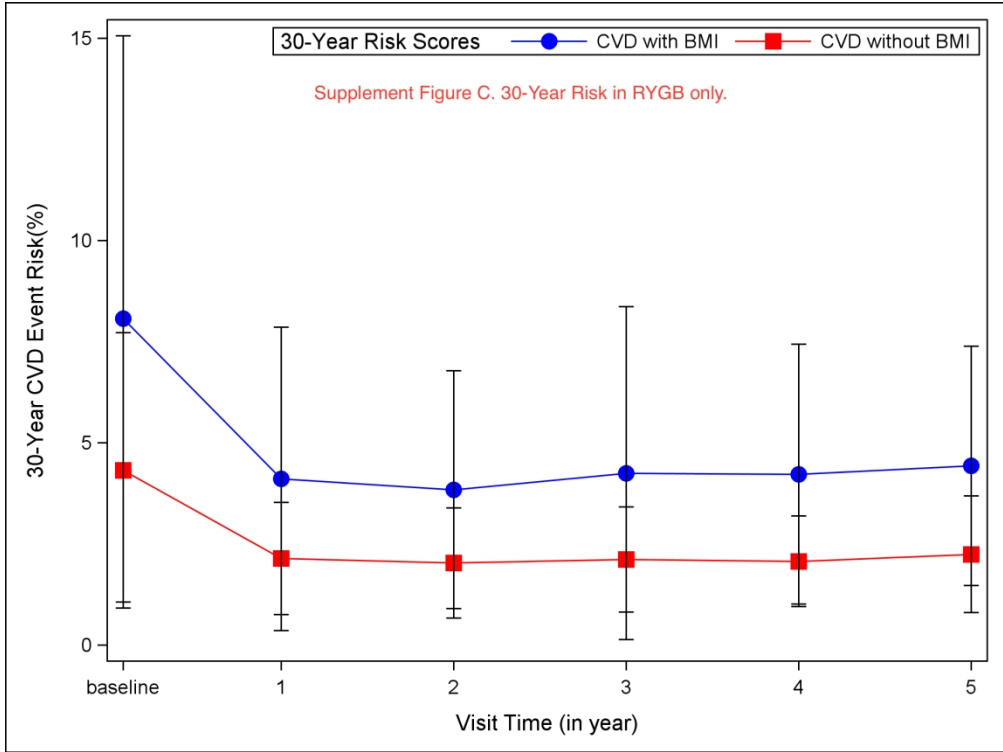
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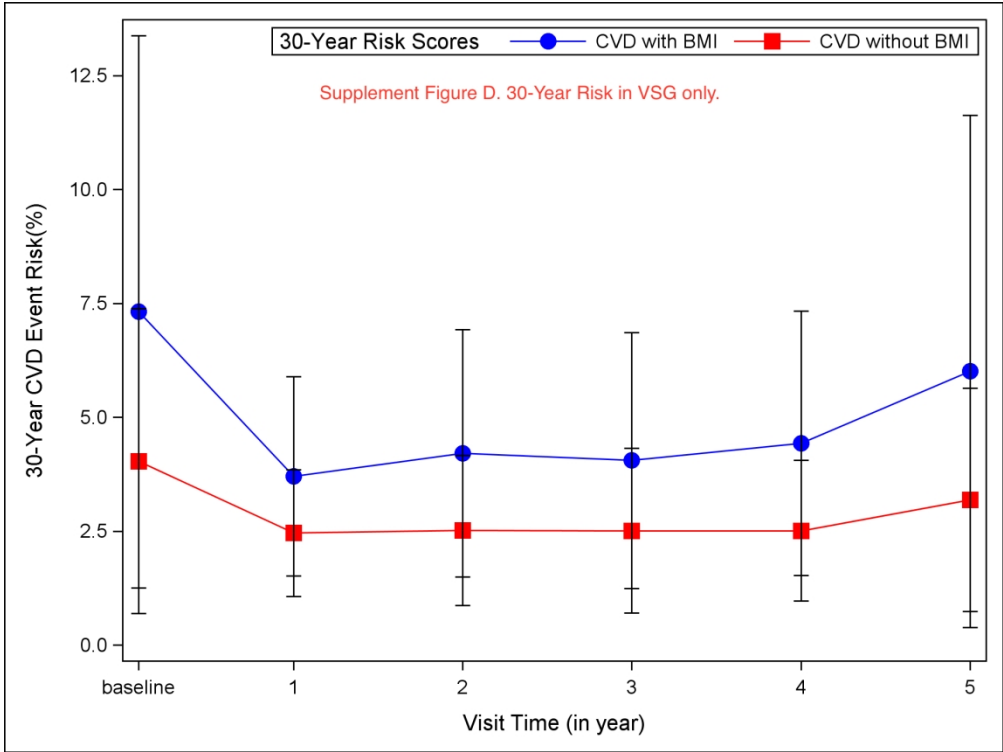
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